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1945/46

EW HAVEN YMCA JUNIOR COLLEGE

TWENTY-FIFTH ANNIVERSARY BULLETIN

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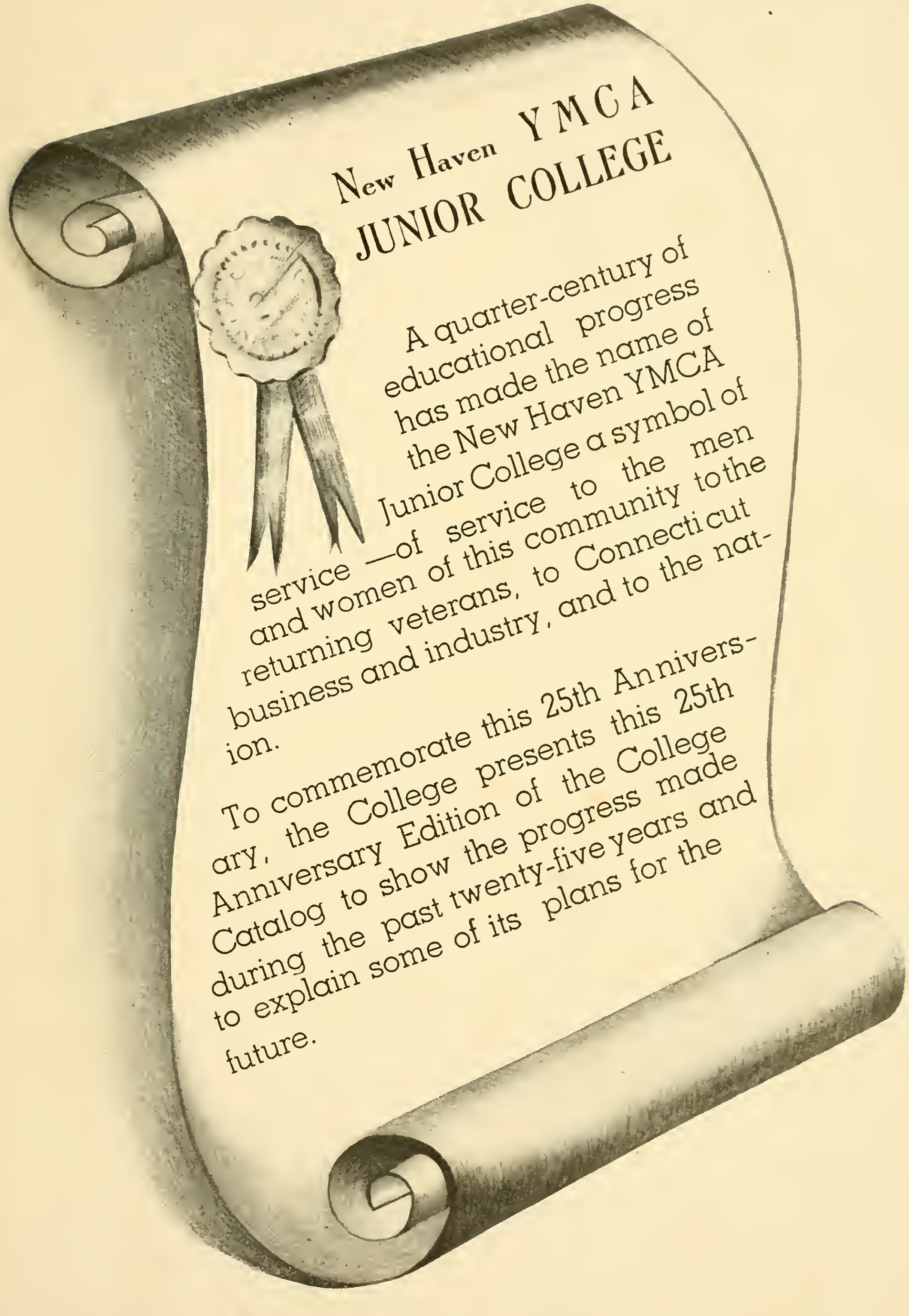
ADMINISTRATIVE OFFICES

Winchester Hall
New Haven 11, Conn.

15 Prospect Street
Telephone 7-3131, Ext. 532

Office Hours

Monday, Wednesday, and Friday
9 A.M. to 5 P.M. and 7 P.M. to 10 P.M.
Tuesday and Thursday
9 A.M. to 5 P.M.
Saturday
9 A.M. to 1 P.M.



New Haven YMCA JUNIOR COLLEGE

A quarter-century of educational progress has made the name of the New Haven YMCA Junior College a symbol of service —of service to the men and women of this community to the returning veterans, to Connecticut business and industry, and to the nation.

To commemorate this 25th Anniversary, the College presents this 25th Anniversary Edition of the College Catalog to show the progress made during the past twenty-five years and to explain some of its plans for the future.

YALE UNIVERSITY
NEW HAVEN CONNECTICUT

July 3, 1945.

Dr. Lawrence L. Bethel, Director
New Haven YMCA Junior College,
15 Prospect Street,
New Haven 11, Connecticut.

Dear Dr. Bethel:

It is with great pleasure that I extend commendations to the New Haven YMCA Junior College on its 25th anniversary. All of us who have observed the work of the Junior College realize that it is making a significant contribution to the life of Connecticut.

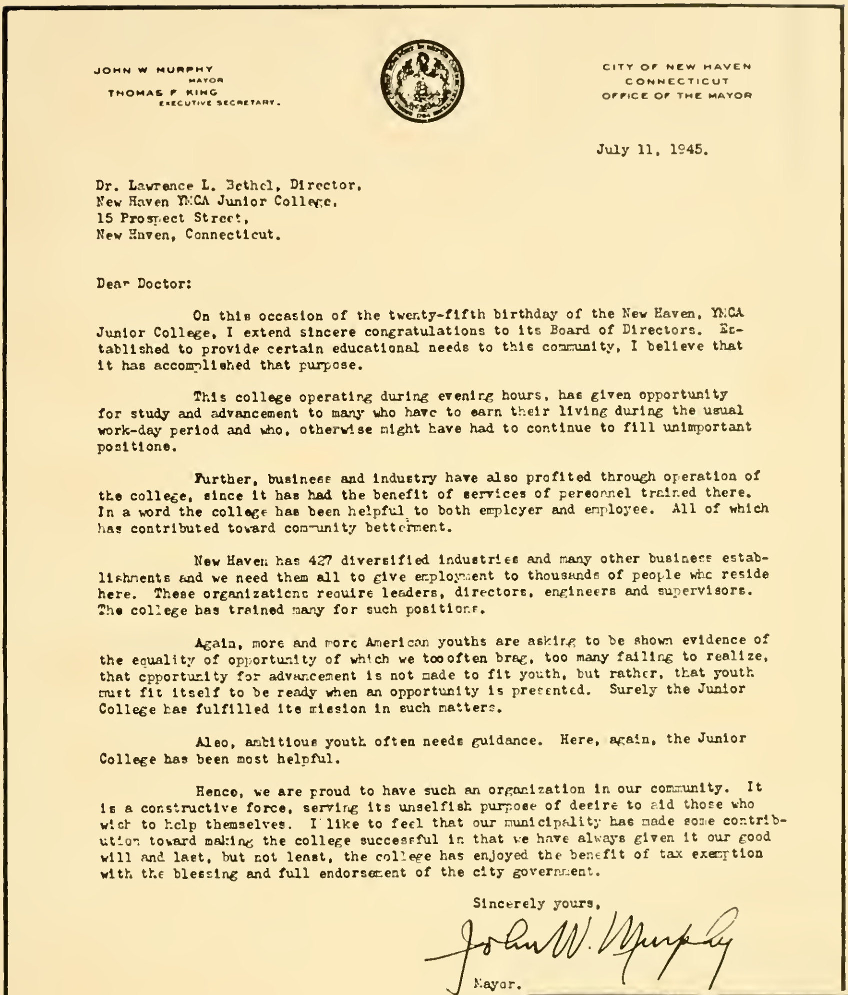
Yale University is especially proud of the Junior College since, through it, the University has been able to enlarge its contribution to the community. The University has realized that a community service of this sort is most effective when administered cooperatively to meet the existing needs.

The worthiness of this enterprise has been especially demonstrated in the administration of the Engineering, Science and Management War Training Program. Although this has been oficially a program of the U.S. Office of Education, administered by Yale University to be operated for the benefit of employees of industry, the work in New Haven County was delegated to the Junior College. The working relationship established over the past twenty-five years has contributed unquestionably to its high achievements in this war emergency program.

It is with pleasure and satisfaction that we look forward to long and increasingly effective cooperation with the Junior College.

Faithfully yours,

Charles Seymour



JOHN W MURPHY
MAYOR
THOMAS F KING
EXECUTIVE SECRETARY.

CITY OF NEW HAVEN
CONNECTICUT
OFFICE OF THE MAYOR

July 11, 1945.

Dr. Lawrence L. Bethel, Director,
New Haven YMCA Junior College,
15 Prospect Street,
New Haven, Connecticut.

Dear Doctor:

On this occasion of the twenty-fifth birthday of the New Haven, YMCA Junior College, I extend sincere congratulations to its Board of Directors. Established to provide certain educational needs to this community, I believe that it has accomplished that purpose.

This college operating during evening hours, has given opportunity for study and advancement to many who have to earn their living during the usual work-day period and who, otherwise might have had to continue to fill unimportant positions.

Further, business and industry have also profited through operation of the college, since it has had the benefit of services of personnel trained there. In a word the college has been helpful to both employer and employee. All of which has contributed toward community betterment.

New Haven has 427 diversified industries and many other business establishments and we need them all to give employment to thousands of people who reside here. These organizations require leaders, directors, engineers and supervisors. The college has trained many for such positions.

Again, more and more American youths are asking to be shown evidence of the equality of opportunity of which we too often brag, too many failing to realize, that opportunity for advancement is not made to fit youth, but rather, that youth must fit itself to be ready when an opportunity is presented. Surely the Junior College has fulfilled its mission in such matters.

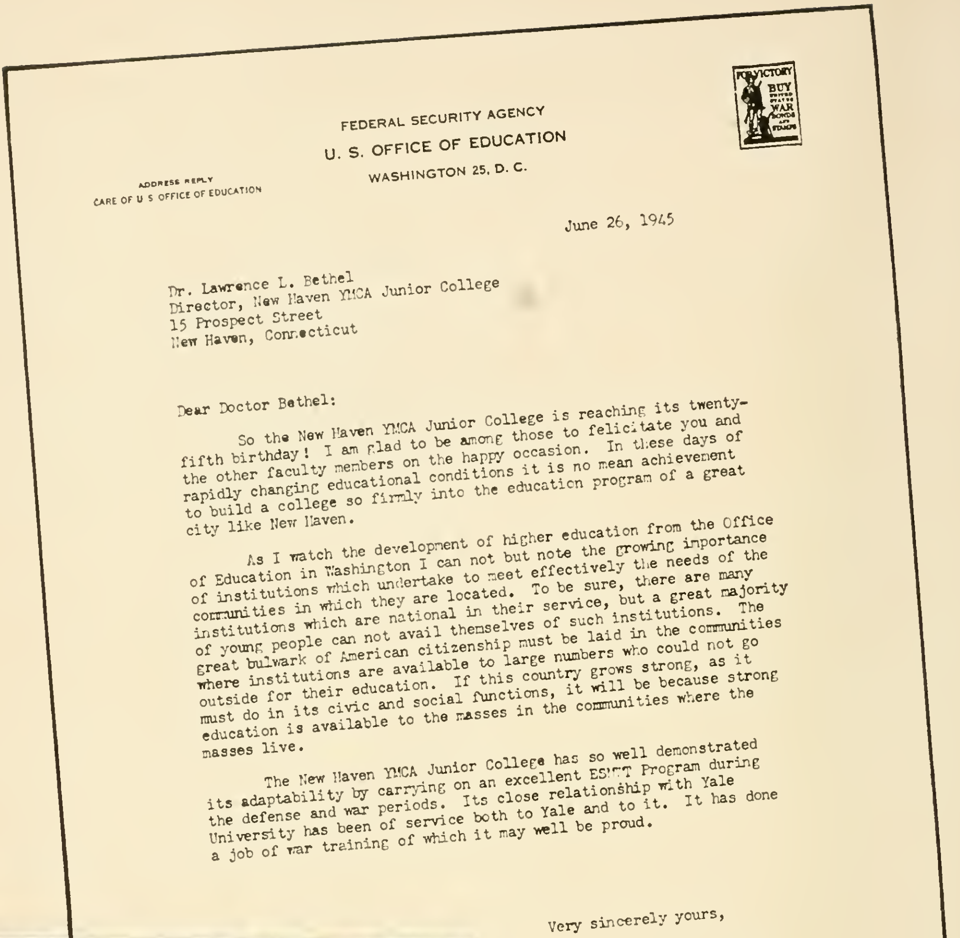
Also, ambitious youth often needs guidance. Here, again, the Junior College has been most helpful.

Hence, we are proud to have such an organization in our community. It is a constructive force, serving its unselfish purpose of desire to aid those who wish to help themselves. I like to feel that our municipality has made some contribution toward making the college successful in that we have always given it our good will and last, but not least, the college has enjoyed the benefit of tax exemption with the blessing and full endorsement of the city government.

Sincerely yours,

John W. Murphy

Mayor.



FOR VICTORY
BUY
UNITED STATES
WAR
BONDS AND STAMPS

FEDERAL SECURITY AGENCY
U. S. OFFICE OF EDUCATION
WASHINGTON 25, D. C.

ADDRESS REPLY
CARE OF U S OFFICE OF EDUCATION

June 26, 1945

Dr. Lawrence L. Bethel
Director, New Haven YMCA Junior College
15 Prospect Street
New Haven, Connecticut

Dear Doctor Bethel:

So the New Haven YMCA Junior College is reaching its twenty-fifth birthday! I am glad to be among those to felicitate you and the other faculty members on the happy occasion. In these days of rapidly changing educational conditions it is no mean achievement to build a college so firmly into the education program of a great city like New Haven.

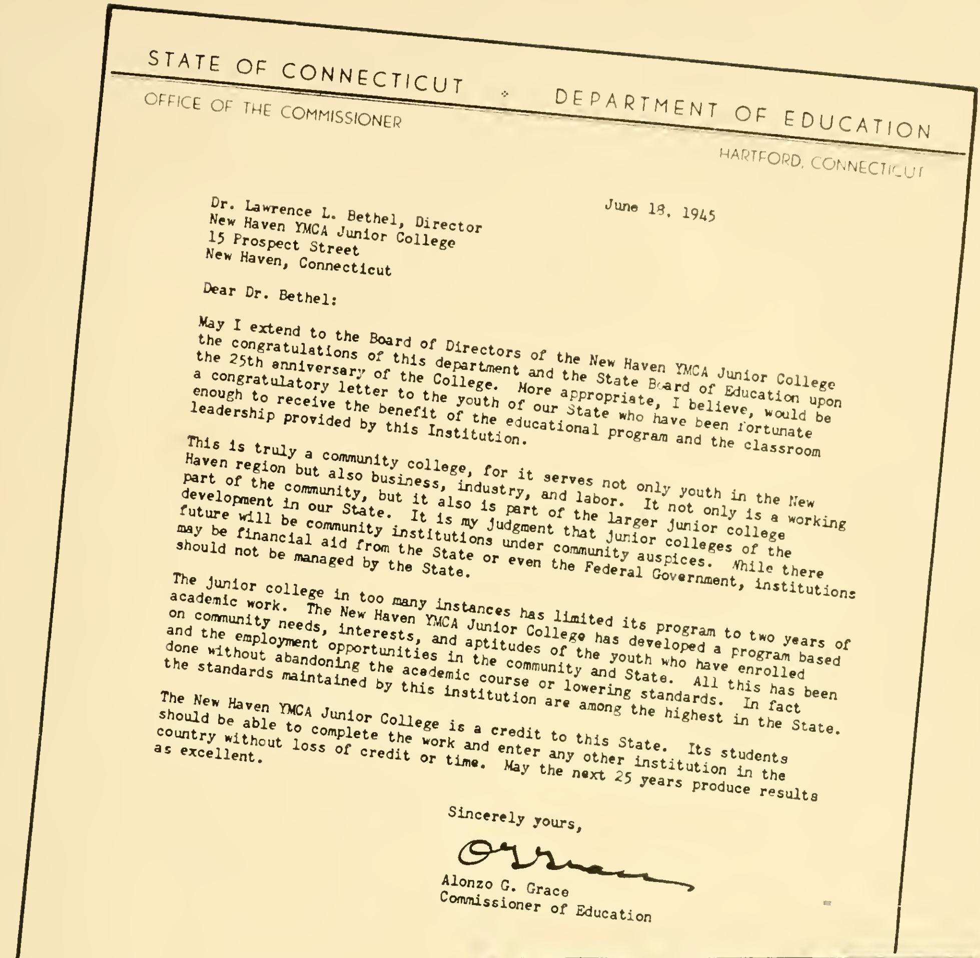
As I watch the development of higher education from the Office of Education in Washington I can not but note the growing importance of institutions which undertake to meet effectively the needs of the communities in which they are located. To be sure, there are many institutions which are national in their service, but a great majority of young people can not avail themselves of such institutions. The great bulwark of American citizenship must be laid in the communities where institutions are available to large numbers who could not go outside for their education. If this country grows strong, as it must do in its civic and social functions, it will be because strong education is available to the masses in the communities where the masses live.

The New Haven YMCA Junior College has so well demonstrated its adaptability by carrying on an excellent ESMWT Program during the defense and war periods. Its close relationship with Yale University has been of service both to Yale and to it. It has done a job of war training of which it may well be proud.

Very sincerely yours,

Fred J. Kelly

Fred J. Kelly, Chief
Division of Higher Education



STATE OF CONNECTICUT ⁘ DEPARTMENT OF EDUCATION
OFFICE OF THE COMMISSIONER
HARTFORD, CONNECTICUT

June 18, 1945

Dr. Lawrence L. Bethel, Director
New Haven YMCA Junior College
15 Prospect Street
New Haven, Connecticut

Dear Dr. Bethel:

May I extend to the Board of Directors of the New Haven YMCA Junior College the congratulations of this department and the State Board of Education upon the 25th anniversary of the College. More appropriate, I believe, would be a congratulatory letter to the youth of our State who have been fortunate enough to receive the benefit of the educational program and the classroom leadership provided by this Institution.

This is truly a community college, for it serves not only youth in the New Haven region but also business, industry, and labor. It not only is a working part of the community, but it also is part of the larger junior college development in our State. It is my judgment that junior colleges of the future will be community institutions under community auspices. While there may be financial aid from the State or even the Federal Government, institutions should not be managed by the State.

The junior college in too many instances has limited its program to two years of academic work. The New Haven YMCA Junior College has developed a program based on community needs, interests, and aptitudes of the youth who have enrolled and the employment opportunities in the community and State. All this has been done without abandoning the academic course or lowering standards. In fact the standards maintained by this institution are among the highest in the State.

The New Haven YMCA Junior College is a credit to this State. Its students should be able to complete the work and enter any other institution in the country without loss of credit or time. May the next 25 years produce results as excellent.

Sincerely yours,

Alonzo G. Grace
Commissioner of Education

AGG:rl

IT'S A FACT

The New Haven YMCA Junior College

- was accredited by the State Board of Education as a degree-granting institution in 1935.
- is exclusively an evening college—perhaps the only one of its kind in the country.
- has trained approximately 7,500 regular college students during the past twenty-five years and about 8,000 special War Training students.
- permits a student to enroll for just one course if he so desires.
- offers an Associate in Science degree with major work in the following programs:

Division of Business
  Accounting
  Business Administration

Division of Engineering
  Aeronautical Engineering
  Electrical Engineering
    Electrical Power Engineering
    Communications Engineering
  Materials Engineering
    Non-metals Engineering
    Metals Engineering
  Mechanical Engineering
    Mechanical Design Engineering
    Tool Engineering

Division of Management
  Personnel Supervision
  Industrial Administration

- offers special courses on the various levels of instruction—from preparatory to graduate.
- offers special courses for non-high school graduates.
- has excellent laboratory and classroom facilities, thanks to the generosity of Yale University. (As its contribution to evening education in Southern Connecticut, Yale makes available to the College and its students the classroom and laboratory facilities of Sheffield Scientific School.)

STERLING TOWER

The College operates in the Sheffield Scientific School of Yale University. This photograph, like the others used in this book, is reproduced by special permission of the University.

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Director

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J. Watson Wilson, A.B., M.A., Ph.D	*Director of Instruction*
James M. Orr, A.B., M.Ed., M.A.	*Director of Student Personnel*
James R. Hibbs, A.B., Ph.D	*Chairman, Department of Business*
Leland E. LaGanke, B.A., M.A.	*Industrial Coördinator, Chairman, Department of Personnel Supervision*
Frank Coe, B.S.	*Administrative Assistant*
Julia M. Stockover, A.B.	*Registrar*
Katharine Blenis, A.B., B.S.	*Secretary to the College*
A. Edwina Kenney	*Secretary to Director of Instruction*
Lois F. Conrad	*Secretary to Chairman, Department of Business*
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Eleanor Boski, A.S.	*Secretary to Director of Student Personnel*
Phyllis Amato	*Stenographer*

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JAMES M. ORR,
Director of Student Personnel

J. WATSON WILSON,
Director of Instruction

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George R. Tiernan

Photographs of faculty members were selected on the basis of seniority with the College.

LELAND LaGANKE,
Industrial Coordinator

FACULTY 1944-1945

*ESMWT Program only.

*Barry, Albeus E. Office Management
Columbia University and Pace Institute;
Office Manager, Manning, Maxwell & Moore.

Beach, James C. *Engineering Drawing*
B.S., M.F., Yale University; Civil Engineer,
Clarence Blair Associates, Inc.

Beaumont, George *English*
B.S., Yale University; Personnel Supervisor,
The Southern New England Telephone Company.

Beck, Fred John, Jr. *Electricity*
E.E., Brooklyn Polytechnic Institute; Ph.D., Yale University,
Associate Professor, Department of Electrical Engineering,
Yale University.

Bethel, Lawrence L. *Director*
M.A., Columbia University; Ph.D., Yale University.

Blenis, Katharine *Secretary to the College*
A.B., New York State College; B.S., Simmons College.

Board, Samuel S., Jr. *Machine Design*
B.E., Yale University; Welding Engineer,
Farrel-Birmingham Company, Inc.

Booth, C. E. *Engineering Problems, Mathematics*
Ph.B., Yale University; Plant Engineer, Brock-Hall Dairy Co.

Brick, Robert M. *Metallurgy*
Met. E., Lehigh University; Ph.D., Yale University;
Assistant Professor, Yale University.

*Callahan, Willie R. *Mathematics*
B.S., M.S., Virginia Polytechnic Institute;
Lecturer, Department of Electrical Engineering,
Yale University.

Carroll, Madalene D. *English*
B.A., M.A., Columbia University; Teacher, New Haven Public Schools.

*Cassidy, Harold G. *Chemistry*
B.A., M.A., Oberlin College; Ph.D., Yale University; Assistant Professor, Department of Chemistry, Yale University.

Clark, Myron H. *Industrial Supervision*
B.S., Massachusetts Institute of Technology; Consultant on Management, Myron H. Clark & Associates.

Cobey, Donald E. *Law*
B.A., LL.B., Yale University; Attorney-at-Law, Stoddard, Persky, and Eagan.

Coe, Frank S. *Organization and Management of Industrial Training*
B.S., Montclair Teachers College;
B.S., Newark College of Engineering; Training Supervisor, Chance Vought Aircraft Corporation.

Conkling, George J. *Accounting*
A.S., New Haven YMCA Junior College; Senior Auditor, Auditors of Public Accounts, State of Connecticut.

Cuny, Eugene S. *English*
B.S., University of Houston; Teacher, Hopkins Grammar School.

Dawless, Fred J. *Marketing and Sales*
Manager, New Haven Branch, Crucible Steel Company of America.

*Dietrich, Harold G. *Chemistry*
B.A., Oberlin College; Ph.D., Yale University; Assistant Professor of Chemistry, Yale University.

*Duryee, Lawrence M. *Electricity*
B.S., Stanford University; Industrial Power Engineer, Connecticut Light and Power Company.

Eckerman, Dwight C. *Public Speaking*
B.A., Monmouth College; M.A., Yale University; Editor, New Haven Journal-Courier.

Engberg, Robert M. *Supervision*
B.S., Ph.D., University of Chicago; Assistant Industrial Relations Manager, R. Wallace & Sons.

*Finsinger, F. Joseph *Industrial Supervision*
B.S., Pennsylvania State University; Supervisor of Training, General Electric Company.

Fischer, Frederick F. *Accounting*
B.C.A., Northeastern University; C.P.A., State of Connecticut; Public Accountant.

*Fogarty, William D. *Methods Engineering*
Methods Engineer, Bryant Electric Company.

*France, Walter D. *Metallurgy*
B.S., M.E., Yale University; Metallurgist, Scovill Manufacturing Company.

GRANT, JOHN B. *Law*
B.A., LL.B., Yale University; Attorney-at-Law, Watrous, Gumbart and Corbin.

*GREIST, NORMAN A. *Office Management*
B.S., Yale University; Office Manager, Chase Brass & Copper Company.

*HASKELL, FRANCIS L. *Office Management*
Office Manager, Wallace Barnes Company.

HIBBS, JAMES R. *Chairman, Department of Business*
A.B., Ph.D., University of Pennsylvania.

*HOPTON, ROBERT F. *Methods Engineering*
B.S., Yale University; Time Study and Methods Engineer, Winchester Repeating Arms Company.

*HUGHES, FORREST R. *Institutional Representative ESMWT*
B.S., C.E., University of Missouri; Assistant Professor of Engineering Drawing, Yale University.

*HUNT, LEIGH W. *Tool Design*
Assistant Chief Draftsman, Safety Car Heating and Lighting Company.

JONAH, FRED C. *Mathematics*
A.B., Mt. Allison University; M.A., Ph.D., Brown University; Project Analytical Engineer, Chance Vought Aircraft Corp.

KEATOR, FREDERIC W. *Power Plants, Mechanics*
B.S., University of Washington; M.E., Yale University; Associate Professor of Mechanical Engineering, Yale University.

KEPPEL, ROBERT C. *Economics*
A.S., New Haven YMCA Junior College; Personnel Manager, Bassick Company.

KLIMCZAK, WALTER J. *Mathematics*
B.S., M.A., Yale University; Instructor, Yale University.

*KOLLER, RAYMOND R. *Industrial Safety*
A.B., Pennsylvania State College; Safety Engineering, Farrel-Birmingham Company.

EVERETT O. WATERS

FREDERICK F. FISCHER

EGBERT J. MILES

Kossack, Carl R. *Mathematics*
B.A., M.A., Yale University; Instructor in Mathematics, Yale University.

Kybal, Dalimil *Aerodynamics*
B.S., B.S.Ae., M.S.Ae., California Institute of Technology; Aerodynamic Projects Engineer, Chance Vought Aircraft Corporation.

LaGanke, Leland E. *Chairman, Department Industrial Supervision*
B.A., Wesleyan University; M.A., University of Michigan.

Leitner, Alfred *Physics*
B.A., University of Buffalo; Instructor, Yale University.

Martin, Everett W. *Industrial Safety*
B.S., Harvard University; Safety Engineer, Liberty Mutual Insurance Company.

*May, Joe C. *Electricity*
B.S., Oklahoma Agricultural and Mechanical College; Laboratory Assistant, Yale University.

Miles, Egbert J. *Mathematics*
A.B., Indiana University; A.M., Swarthmore College; Ph.D., University of Chicago; Associate Professor of Mathematics, Yale University.

Moulton, Phillips P. *English*
B.A., Ohio Wesleyan University; B.D., Yale University; Yale University.

Nelson, Ralph D. *Statistics*
B.S. in E.E., Rhode Island State College; M.S., Rensselaer Polytechnic Institute; Research Mathematician, U. S. Time Corporation.

Nowak, George J. *Accounting*
B.S., American International College; M.B.A., University of Pennsylvania; C.P.A., Connecticut; member, American Institute of Accountants; Senior Supervisor, Kircaldie, Randall, and McNab.

Phelps, Charles W. *Fluid Mechanics*
B.S., Connecticut Agricultural College; B.S., M.S., M.E., Yale University; Instructor, Yale University.

Ricciardi, Philip *Accounting*
A.S., New Haven YMCA Junior College; Accountant, Kircaldie, Randall & McNab.

Orr, James M. *Director of Student Personnel*
B.A., Muskingum College; M. Ed., University of Pittsburgh; M.A., Yale University.

*Ramsdell, John M. *Office Supervision*
A.S., New Haven YMCA Junior College; Office Manager, Connecticut Plan for Hospital Care.

*Richardson, Joy O. *Advanced Drafting, Tool Design*
B.S. in M.E., University of Nebraska; M.E., Yale University; Instructor, Yale University.

Robertson, Thomas *Engineering Drawing*
Pratt Institute; Consulting Engineer, Westcott and Mapes, Inc.

*Sandell, Elmer *Safety*
Safety Engineer, Employers Group Insurance.

Schapiro, Donald *Accounting*
B.A., Yale University; Assistant in Research,
Bureau of Highway Traffic, Yale University.

*Schwab, John L. *Methods Engineering*
Supervisor of Industrial Methods Engineering,
Bryant Electric Company.

Sheldon, Harold W. *Accounting*
A.B.A., New Haven College; C.P.A., State of Connecticut;
Public Accountant.

Sherwin, Samuel B. *Aerodynamics*
B.S., College of the City of New York; M. Aero. E., New
York University; Structural Development Engineer,
Chance Vought Aircraft Corporation.

*Shewbridge, William H. *Motion & Time Study*
S.B., Massachusetts Institute of Technology; Time
Study, Scovill Manufacturing Company.

Smith, George H. E. *Economics*
M.A., LL.B., University of Michigan; Economist, Writer.
On leave of absence to U. S. Senate.

Spitzer, Charles F. *Electricity*
B.S., Swarthmore College; M.S., Yale University;
Instructor in Electrical Engineering, Yale University.

Stackman, Harvey A., Jr. *Personnel Problems*
B.S., Indiana University.
Job Evaluation and Personnel Coördination, Scovill
Manufacturing Company.

Stockover, Julia M. *Registrar*
B.A., Mount Holyoke College.

Strange, William J. *Mathematics*
A.B., Park College; M.A., Syracuse University;
Instructor, Yale University.

CARL R. KOSSACK

GEORGE R. TIERNAN

THOMAS ROBERTSON

*Swift, John A. _Metallurgy_
S.B., S.M., Massachusetts Institute of Technology;
Metallurgist, Billings & Spencer Company.

*Taaffee, William R. _Methods Engineering_
LLB., New York Law School; Job Analyst, Acme Shear
Company.

Tiernan, George R. _Law_
B.A., Yale University; LL.B., Cornell University;
Attorney-at-Law.

*Turner, Hubert M. _Electricity_
B.S. in E.E., M.S., University of Illinois.
Associate Professor of Electrical Engineering, Yale University.

Waibler, Paul J. _Mechanics, Strength of Materials_
B.S., Kansas State College; M.E., Yale University;
Instructor, Yale University.

Waters, Everett O. _Chairman of Chance Vought Faculty_
B.A., Ph.B., M.E., Yale University; Professor of Mechanical
Engineering, Yale University.

Weston, Rolfe A. (Emeritus) _Accounting_
B.A., Dalhousie University; Certified Public Accountant,
State of Connecticut; Member of American Institute of
Accountants; Public Accountant.

Willard, John W. _Supervision_
B.S., Newark College of Engineering;; Personnel
Manager, U. S. Electrical Motors.

Wilson, J. Watson _Director of Instruction_
A.B., Muskingum College; M.A., Ph.D., Yale University.

*Wolff, Armond T. _Motion and Time Study_
M.E., Industrial Engineer, Scovill Manufacturing Company.

*Wright, Arthur S. _Engineering Drawing_

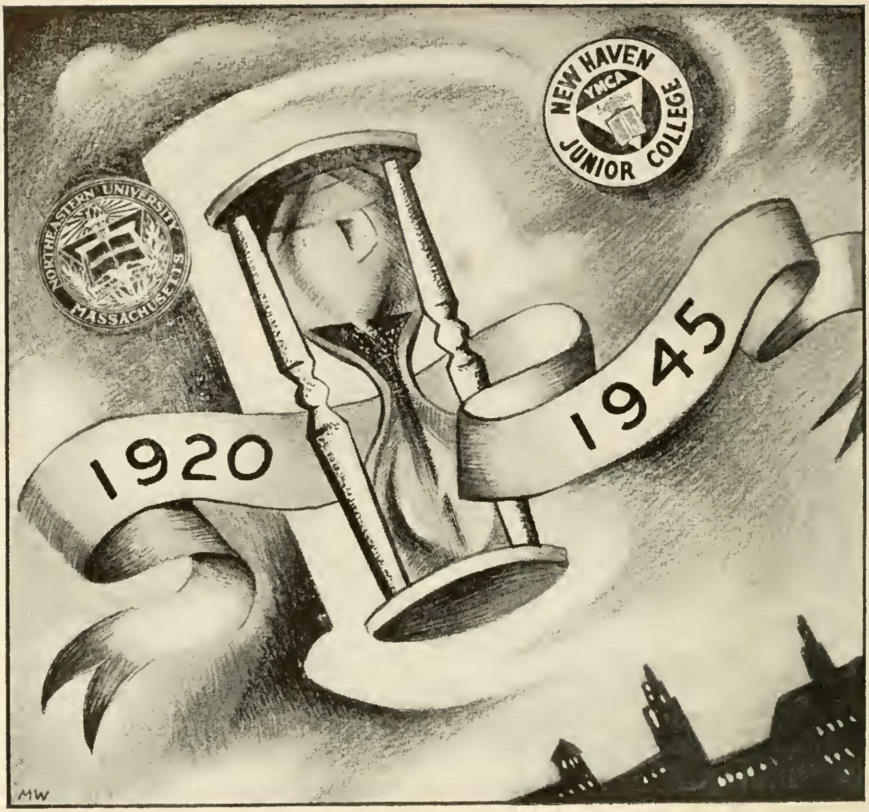
*Wyllie, David _Engineering Drawing_
B.S., Bates College; M.A., New York University; Instructor
of Drawing, Hamden High School.

Zweig, Felix _Electricity_
B.E., Ph.D., Yale University; Assistant Professor,
Electrical Engineering, Yale University.

HUBERT M. TURNER

KATHARINE BLENIS

FREDERIC W. KEATOR



NEW HAVEN YMCA JUNIOR COLLEGE

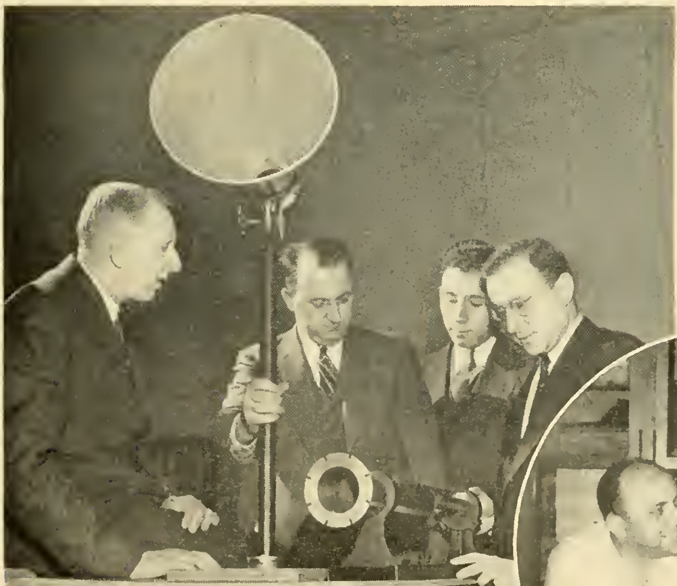
History of the College

New Haven YMCA Junior College reached its twenty-fifth birthday in 1945, its present status and organization being the result of several stages of growth. The seed of the present organization was planted when the New Haven YMCA organized a series of vocational courses to aid in the rehabilitation of returning veterans of World War I. This work grew to such proportions that in 1920 it became a branch of Northeastern University. The association with that University continued until 1926, when the College was incorporated as an independent educational institution known as New Haven College.

Nine years later, in 1935, the college was accredited by legislative act of the State of Connecticut and its name was changed to New Haven YMCA Junior College. Under this name it has continued to function until the present time.

From October, 1940 until July, 1945 the College, in addition to its regular program, carried the responsibility for the administration of special war training courses in coöperation with Yale University. These courses, successively offered under Engineering Defense Training, Engineering, Science and Management Defense Training and the Engineering, Science and Management War Training programs were sponsored by the United States Office of Education to provide education at the collegiate level to meet specific war needs. Following V-E Day this program was discontinued, but the additional experience gained by the College in adult education through these programs has provided an additional step in its growth.

Not only in preparation for war, but also in the return to peace will the College continue to serve the community, for again a quarter of a century since its inception, it is receiving the returning veterans—this time the Veterans of World War II.



WAR TRAINING

POST-WAR PLANNING

Purposes of the College

Educating employed men and women is the major purpose of New Haven YMCA Junior College. This has been the principal objective of the College during the quarter of a century of its existence. Relationships with Yale University are based upon a mutual realization of this goal; it is for this purpose that Y.M.C.A. funds, drawn from the Community Chest and other sources, are granted to the College.

Specifically, the objectives of the College are:

1. To provide education at the college level appropriate for employed persons.
2. To coördinate the college program with the needs of employed men and women through the development of the Work-Study Program when possible.
3. To serve special community needs for education compatible with (1) and (2).
4. To attempt to achieve the maximum development of the individual through guidance, counseling, testing and placement.
5. To attempt to achieve the maximum effective development of part-time education through advisory service to business and industry regarding training programs and college offerings.

Coöperation with Yale University

The College has important relations with Yale University, even though it is a separate corporation and entitled to grant the Associate in Science degree in its own right.

Yale provides office space, classrooms, laboratories, and the facilities of certain special library collections. College classes are held in the various buildings of Sheffield Scientific School, including: Winchester Hall, Sheffield Hall, North Sheffield Hall, Sheffield Laboratory of Engineering Mechanics, Dunham Laboratory of Electrical Engineering, Mason Mechanical Engineering Laboratory, Hammond Metallurgical Laboratory and Sterling Chemistry Laboratory.

The College maintains a reference library, but students also have access to certain technical libraries of Yale University, such as the School of Engineering Library, and the Library of Applied Economics and Industrial Administration.

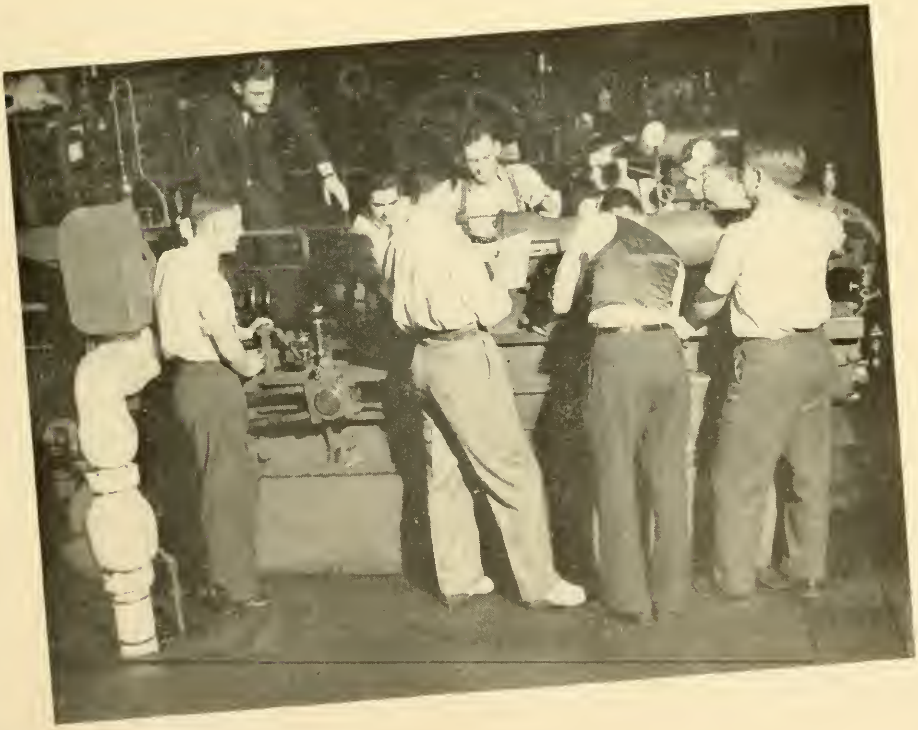
The College has also been able to draw upon the Yale faculty. Several of the courses are taught by members of the Yale staff. It has also been possible to utilize the University faculty for advisory work regarding courses and the organization of programs of study. Finally, some of the College curricula are under the chairmanship of Yale faculty members.

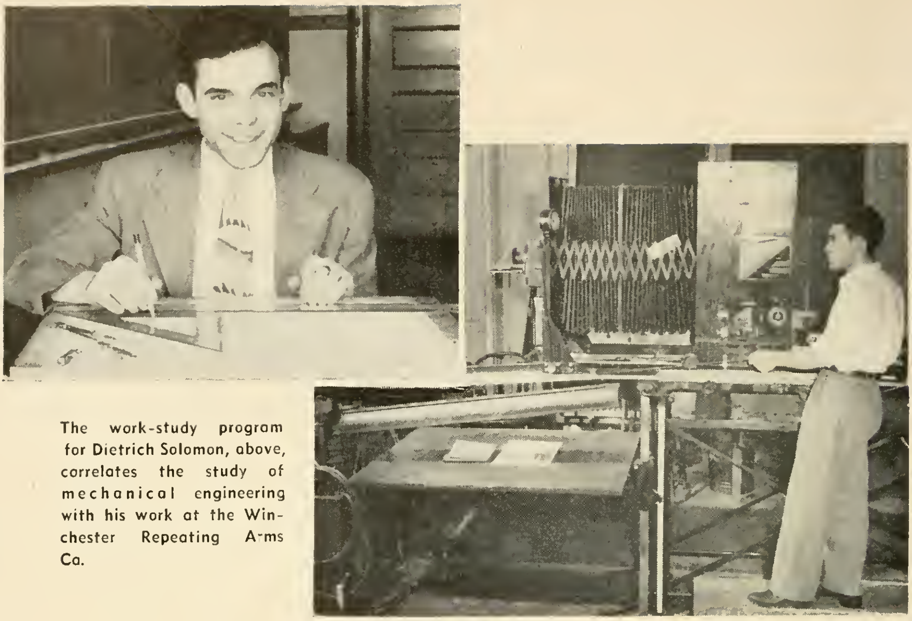
Work-Study Point of View of the College

Recognizing that education, in the broadest sense of the word, is a process confined not alone to the classroom, the program of evening instruction provided by the College takes notice of a student's job as well as his instructional experiences.

The College believes that work is good educational experience, but that when work experience is related to academic instruction it is better. It, therefore, contends that a student's work experiences and academic experiences should be integrated as much as is possible and feasible. It sees this integration as a means whereby the traditional barrier between the academic and the practical may be broken down; and to this end the College has developed a point of view which is frequently referred to as Work-Study.

In accordance with the Work-Study point of view, the College encourages and assists its students either to seek employment which is related to their programs of study, or to pursue programs of study which are related to their present and contemplated work. This the College does because it regards the student's job as a laboratory where he may apply the knowledge he gains at the college, or from which he





The work-study program for Dietrich Solomon, above, correlates the study of mechanical engineering with his work at the Winchester Repeating Arms Co.

receives practical incentives for study in the classroom. The College, however, does not require that its students be on a Work-Study program. The needs and desires of the individual student are the first consideration, and should the individual choose to engage in non-related work and study he is permitted to do so.

In order to facilitate the integration of work and study, the College attempts to develop a pattern of coöperation with the employers represented by the student group. Each employer is encouraged to appoint a Work-Study coördinator who functions as a liaison officer between the College and the employer in matters concerning the student-employee. The coördinator may be expected to assist the College in selecting students and in planning student study programs. He may provide counseling service on the job, arrange for adapting working hours to facilitate the student's study, assist the student in obtaining more nearly related work, or he may develop in-service training programs which are coördinated with College study. The exact nature of his responsibilities varies from company to company for no set pattern of coördination is prescribed. In all cases, however, it is the company coördinator with whom the college deals in matters requiring coöperative efforts of the College and the employer. To the coördinator are sent periodic reports of the student's progress in his studies, unless the student has requested that such reports be withheld.

The placement activity of the College, described elsewhere in this bulletin, is designed primarily to implement the Work-Study idea; that is, to assist student employees to arrange an integrated program of related work and study.

Coöperation with Business and Industry

The Work-Study Program of the Junior College is dependent on a close coöperative relationship with business and industry. Each cooperating company is encouraged to appoint a coördinator to work with student-employees and with the Junior College in the planning and follow-up of its activities.

A group of coöperating companies are now contributing financially to the development program of the College through five-year *Employee Training Agreements*. The purposes of this development program are:

I. Course and program development
   1. Special courses developed to meet the specific needs of one or more companies
   2. New programs of a long-term nature
   3. Reorganization and adaptation of present programs

II. Special work with student-employees
   1. Placement service to the company and the student
   2. Selection of trainees
   3. Counseling with student-employees
   4. Coöperative planning and coördination of work and study.

Many companies have established scholarship funds covering all or part of the tuition of student-employees. Some scholarships also cover the cost of books, fees, and transportation.

New course developments must of course be held for a time to a point where they can be handled adequately. Therefore, it is the policy of the College to give *priority* to student-employees of companies cooperating under Employee Training Agreements in entrance to courses of the development program: (1) for as long as is necessary to take care of qualified applicants from these coöperating companies, (2) provided such limitation is consistent with good educational practice for any given course, and (3) for as long as it is necessary to complete the development work involved in the course.

Programs of Study

The curricula of the College, which is designed to meet the needs of the student-employees, is organized into three main divisions:

1. *Engineering*—including programs in Mechanical Engineering, Tool Engineering, Electrical Power Engineering, Electrical Communications Engineering, and Materials Engineering (including work in two options, one in metals and one in non-metals).

2. *Management*—including programs in Industrial Administration and in Personnel Supervision.

3. *Business*—including programs in Business Administration and in Accounting.

These programs are described in detail on pages 40 through 61.

Unit Courses and Unclassified Students

Classes are open to students who may not be interested in pursuing their Associate in Science degree, but who have the necessary prerequisites for admission to the courses of their choice. Such students may register for one or more subjects. They will be required to give evidence of their preparation for the course or courses in question. Tuition and fees for unclassified students are the same as for regular students.

From time to time special courses may be offered to meet the educational needs of certain students. These courses are not necessarily part of the regular college curriculum. On the educational level, such courses may vary from pre-college to graduate level with admission requirements varying accordingly.

Unclassified or special students may matriculate as degree students at any time provided they meet the admission requirements for the curriculum of their choice.

Veterans

The Veterans Administration has approved the New Haven YMCA Junior College to provide education for veterans who are eligible for education under either Public Law 16 (the Vocational Rehabilitation Act) or Public Law 346 (the G.I. Bill of Rights).

Veterans attending this College under the G.I. Bill will have twice the amount of time for education as indicated in their Letter of Eligibility. This is due to the fact that the College is a part-time institution. In no case, however, can the veteran have more than four years education under the G.I. Bill.

A veteran who is eligible for education under Public Law 16 may study at this College only if his study is supplemental to an on-the-job training program on which he has been placed by the Veterans Administration, and with the approval of the Veterans Administration of his program at the College.

Since the college program is already an accelerated program, and since it is entirely a part-time college, it has seemed unnecessary to modify the program to meet the needs of the veterans. Any further acceleration would undoubtedly operate to the disadvantage of the veterans.

Admission requirements and procedure for establishing advanced standing are the same for all students, whether veterans or not. See page 26 for admission requirements and page 29 for advanced standing policy.

The Director of Student Personnel of the College is prepared to discuss the provisions of the two laws with veterans and to recommend the procedures involved in making application for education under them. Individual conferences may be scheduled at the convenience of the veteran. Prior to the beginning of each period group conferences are held at the College to explain the provisions of the laws and to discuss the programs of the College.

Admission to the College Programs

Students may regularly begin programs of study at the College either in the spring or in the fall of each year. (See calendar on the back inside cover.) Three means are utilized in attempting to determine the student's eligibility for admission to the programs of the College:

1. A personal interview
2. A study of the student's previous educational record
3. The results of entrance examinations which are required of all students seeking admission.

Although the College prescribes no set pattern of high school subjects as an entrance requirement, the following outlines of high school subjects are suggested as desirable:

For admission to the Divisions of Engineering and Management	
English	3 units
Algebra	2 units
Geometry	1 unit
Physics or Chemistry	1 unit
Additional academic subjects, not less than	5 units
Vocational subjects, not more than	3 units
	15 units

For Admission to the Division of Business	
English	3 units
History & Social Science	2 units
Mathematics	1 unit
Additional academic subjects not less than	4 units
Vocational subjects not more than	5 units
	15 units

MISS JULIA STOCKOVER, Registrar, Enrolls New Students.

The following steps constitute the procedure for admission and registration in the College:

1. Each person seeking admission is asked to request an interview with a member of the administrative staff to discuss his admission. In this pre-registration conference an attempt is made to define the student's educational needs and to outline a program of studies which will satisfy those needs.
2. Prior to the interview the applicant is asked to fill out an *Interview and Personal Data form.* This form becomes an application for admission only upon payment of the registration fee.
3. The applicant is required to provide a transcript of his high school or college record. He is requested to bring it to the interview, or to submit it as soon thereafter as possible.
4. The applicant then registers:
    - A. By filling out the several cards constituting the registration forms; and
    - B. By paying a registration fee. (See calendar on back inside cover for closing dates of registration and page 36 for registration fees.)

Although a student is then registered, his admission is considered tentative until he takes the entrance examinations. (See calendar for dates of these examinations.) The registrant will be informed which examinations he must take.

As a result of the examinations a final determination of admission is made. *Unless an applicant is specifically notified otherwise, he may consider himself admitted in good standing.* If the applicant should be denied admission after having taken the entrance examination, his registration fee will be refunded. Otherwise he may undertake study on a conditional admission basis.

Admission of Non-High School Graduates

Recognizing that many capable students withdraw from high school prior to graduation, the Connecticut State Department of Education provides an opportunity for these students to secure the legal equivalent of a high school diploma by means of State Equivalency Examinations.

Candidates for the Qualifying Academic Certificate must: (1) be graduates of or have the education equivalent to that of the eighth grade, (2) be sixteen years of age or over, and (3) not be enrolled in a regular day high school. In addition, they must pass examinations in four areas of academic study, usually mathematics, English, general science, and social science.

Students who are not high school graduates but meet the other requirements for admission to the College are permitted to enroll in special preparatory courses in the College on a conditional basis pending their qualifying for the State equivalency certificate. Students who hold State certificates may matriculate as regular degree students on the same basis as high school graduates.

For the convenience of students, these examinations are given at the College twice each year, in the fall and in the spring.

Schedule of Classes

The calendar year is divided into four ten-week academic semesters (fall, winter, spring and summer). Each of these is followed by a three-week vacation period. Under this plan students may begin their study in either October or March. Students carrying two subjects attend classes on Monday, Wednesday, and Friday evenings from 7:15 to 9:35.

Transfer of Credit

In accordance with the usual practice among institutions of higher education, transfer of credit from the College to any other institution is dependent upon the requirements of that institution to which the transfer is made. Since the New Haven YMCA Junior College is an accredited institution, its credits are recognized by the major institutions of the country.

Admission to Advanced Courses

A student may qualify for admission to an advanced course in any one of the following ways:

Transfer of Credit. Credit toward advanced standing is given for study at other approved colleges and universities, if such work is similar in content to corresponding courses in New Haven YMCA Junior College. Each such transfer is considered on its individual merits. Factors determining the amount of credit to be given for study elsewhere include: number of credit hours, grades, course content, and program or course to which the student seeks admission. Candidates for the Associate of Science degree must complete at least one year of study in the College.

Crediting Examination. Since it is the stated policy of the College that no student shall be required to take courses which he does not need because of previous experience or education, and since his previous experience or education may have been with a non-accredited institution or agency of a type which makes transfer of credit impossible, a student may meet course prerequisites and establish credit by successfully passing a "crediting examination." To be eligible to take such an examination, the student's written request must be approved by the administrative committee of the College. A fee of $5.00 is charged for each examination.

Qualifying Examination. A student may demonstrate his ability to carry an advanced course without establishing credit for the prerequisites by successfully passing a qualifying examination.

STUDENT ACTIVITIES COMMITTEE

Grading System

The following system of grading is in use, and except where otherwise specified, applies to both examinations and term work. Grades are issued each semester.

A	Superior work
B	Good work
C	Fair work
D	Lowest passing grade
F	Condition
FF	Indicates that the course must be repeated
Inc.	Incomplete
X	Absent from final examination

A student is expected to achieve a C average in the combined work for any one year before advancing into the succeeding year.

In order to receive credit in a course for the semester, the student must not have over four absences in courses meeting for a 130 minute period or over eight absences in courses meeting for a 65 minute period.

Withdrawal

In the event of withdrawal from college, tuition cancellations will be made as of the first of the following payment period. Tuition refunds to those paying in advance will be made on the basis of deferred payment charges. (See page 36.)

Any student who has paid his registration fee and whose application has been accepted will be considered enrolled in the College. If he attends one class session he is liable for tuition until such time as he notifies the office in writing of his intention to withdraw.

Scholastic Probation

At the end of any grading period a student may be put on probation if he: (a) receives D's as his semester grades whether he is carrying one or two subjects, or (b) receives one F or FF in any course regardless of his other grade.

A new student may be admitted to the College on probation if his previous school grades are below a C average and/or if his test scores are in the lowest quartile as compared with college students generally.

In order to remove his probationary status, the student's semester grades must average C, with no grade below a D. He must achieve this rank within two semesters from the time he is placed on probation. A student who does not meet the conditions for removal of probation in either of the following two semesters will be dropped from College.

Student Activities

The extra-curricula activities of the student group are planned and administered by the Student Activities Committee under the guidance of the Director of Student Personnel. The Committee has replaced the more formal Student Council for the duration of the war. The Committee is made up of student volunteers who enjoy participating in its work. The officers elected by the volunteer committee in the spring and fall assume the responsibility for the work of the Committee.

Among the activities promoted and carried out by the Committee are the semi-annual dances, the sports program which utilizes the facilities of the Y.M.C.A. for swimming, basketball, volley ball, hand ball, etc., and obtaining speakers and movies for student assemblies.

Student Loan Funds

The College has been the recipient of gifts from individuals interested in assisting students. Some of these gifts have been especially designated as revolving loan funds.

The purpose of the loan fund is to assist students who have attended the college for at least one semester. A limited portion, however, is available for students entering the College for the first time. The fund is administered by a committee of the faculty in accordance with policies established by the Board of Governors of the College.

Application should be made to the Director.

Scholarships

A limited number of scholarships, amounting to approximately one-half of the tuition are available each year. These are awarded by the Committee on the qualifications presented. Scholastic attainment, ability to profit from the course, and financial need are taken into consideration.

Application should be presented well in advance of the beginning of the school year. Application forms may be secured from the College office.

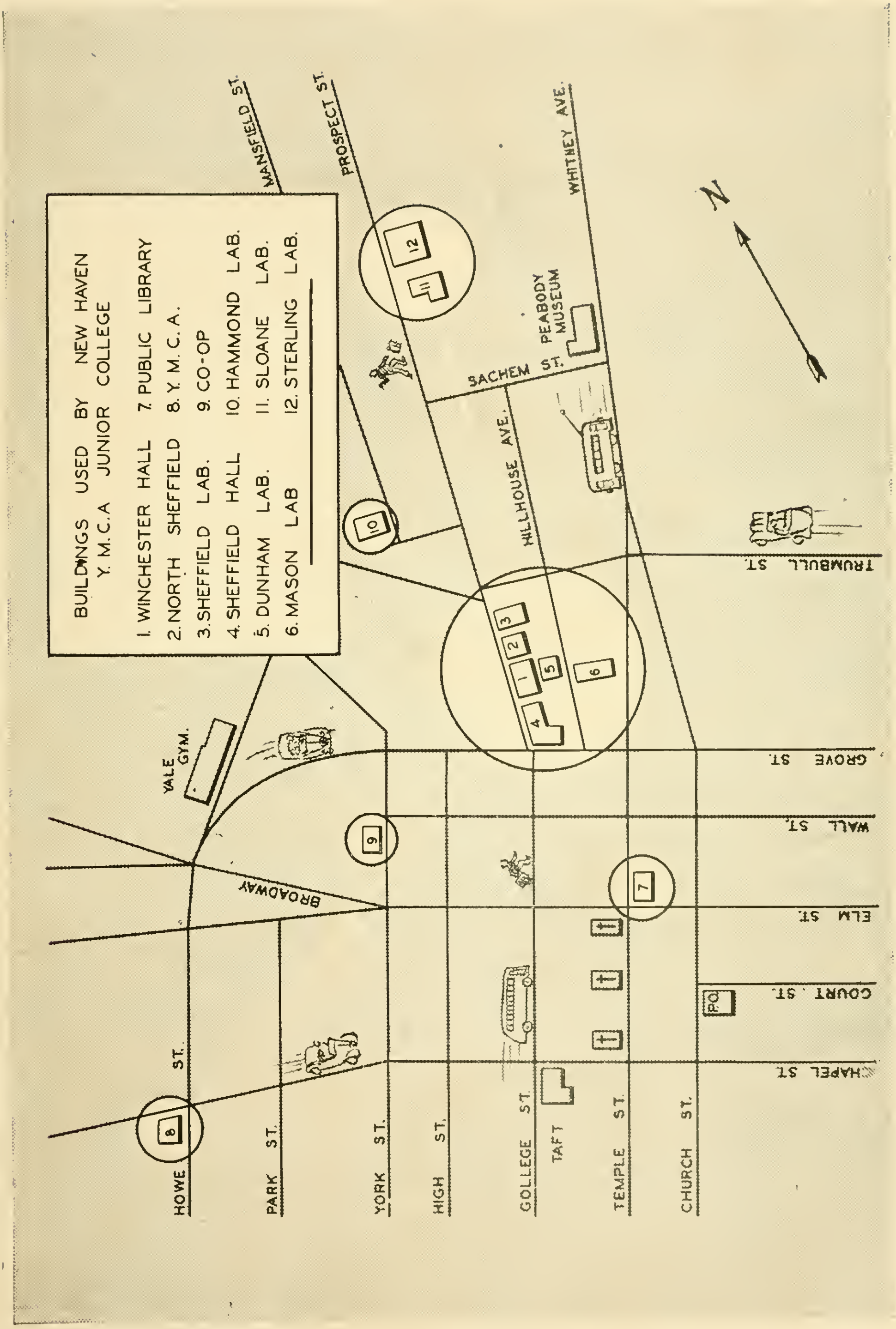
In addition to general scholarships, certain special scholarships are available: Foremen's Club Scholarships, Alumni Scholarships, Board of Governors Scholarships, Faculty Scholarships.

Graduation Requirements

Candidates for graduation are recommended by the faculty. These candidates must have completed one of the three-year curricula of sixty semester hours. At least one year of study in the college must be completed, irrespective of the amount of credit earned in other institutions.

The Alumni Association

More than 7500 students have attended the College since its founding. The alumni participate in the administration of the College by electing representatives to the Board of Governors; they encourage academic scholarship by making annual awards to the highest ranking senior in engineering and business departments.


BUILDINGS USED BY NEW HAVEN Y. M. C. A JUNIOR COLLEGE
1. WINCHESTER HALL
2. NORTH SHEFFIELD
3. SHEFFIELD LAB.
4. SHEFFIELD HALL
5. DUNHAM LAB.
6. MASON LAB
7. PUBLIC LIBRARY
8. Y. M. C. A.
9. CO-OP
10. HAMMOND LAB.
11. SLOANE LAB.
12. STERLING LAB.
MANSFIELD ST.
PROSPECT ST.
WHITNEY AVE.
N
PEABODY MUSEUM
SACHEM ST.
HILLHOUSE AVE.
TRUMBULL ST.
GROVE ST.
WALL ST.
ELM ST.
COURT ST.
CHAPEL ST
YALE GYM.
BROADWAY
HOWE ST.
PARK ST.
YORK ST.
HIGH ST.
COLLEGE ST.
TAFT
TEMPLE ST.
CHURCH ST.
P.O.

Placement

Since the New Haven YMCA Junior College receives requests from both employers and students to serve as a medium for placement work, it seems advisable to express our policy in doing so.

Although placement is not a major function of the College, we render placement service within the limitations of our purposes and resources. We act as a medium of exchange for information between companies and students or former students. We are particularly interested in helping students find jobs which require college study or which will lead to positions that require such education.

How the Placement Service Works

A. **Unemployed students or former students.**

When an unemployed student asks us to help in placement, we will do so by notifying potential employers of the student's availability.

B. **Employed students or former students.**

When an employed student or former student requests placement service, we encourage the student to talk with his company coördinator concerning the possibilities in his own company. Since the College has a very close working relationship with certain companies through their participation in our development program under Employee Training Agreements, we are in an especially favorable position to discuss the student's case with the coördinators of these companies. It is only after we have become convinced the best interests of the student will be served that we will undertake placement service.

C. **Company Requests**

When a company requests us to fill a position, we will if possible refer qualified applicants to the company after having followed the procedure listed in A or B above. We cannot undertake to search for applicants outside of our student or graduate group, who have indicated their desire for placement.

A student or former student who desires placement should call by telephone or in person to make an appointment with the Industrial Coördinator of the College to discuss any possible action. The company wishing to fill a position should list the job and the qualifications with the Industrial Coördinator.

TUITION AND FEES

Registration Fee (Required of students registering for the first time)	$3.00
Late Registration Fee (Required of all students registering after the close of the registration period. See calendar, inside back cover)	$2.00
Tuition (per course per semester)	22.00
Student Activities Fee	.50
Deferred Charge	1.00
Make-up Examination	5.00
Crediting Examination (see page 29)	5.00
Diploma Fee	10.00

Schedule of Tuition Payment Dates

Cash Plan:

Tuition fees for each semester are as follows:

	5 sem. hrs.	2½ sem. hrs.
Due when semester begins	$17.50†	$ 9.50†
Due on or before date of second payment	27.00	13.00
	$44.50	$22.50

Deferred Plan:

The tuition rate per semester on the deferred plan is $45.00 for two subjects and $23.00 for one subject. It is payable as follows:

	5 sem. hrs.	2½ sem. hrs.
Fall 1945		
September 26	$17.50†	$9.50†
October 29	14.00	7.00
November 19	14.00	7.00
Winter 1946		
January 7	17.50†	9.50†
January 28	14.00	7.00
February 18	14.00	7.00
Spring		
April 3	17.50†	9.50†
April 29	14.00	7.00
May 20	14.00	7.00
Summer		
July 8	17.50†	9.50†
July 29	14.00	7.00
August 26	14.00	7.00

† Not refundable. Includes student fee.

DIVISION	BASIC COURSES	ASSOCIATE OF SCIENCE DEGREE IN
I DIVISION OF MANAGEMENT	BASIC COURSES Applied Psychology Modern Science Production Industrial Management Personnel Administration English	Industrial Administration Personnel Supervision
II DIVISION OF BUSINESS	BASIC COURSES Accounting Economics Law Modern Civilization English Business Finance	Accounting Business Administration
III DIVISION OF ENGINEERING	BASIC COURSES English Basic Mathematics Engineering Physics Engineering Drawing Mechanics	Mechanical Engineering Electrical Engineering Materials Engineering Aeronautical Engineering
IV DIVISION OF GENERAL STUDIES	SPECIAL COURSES Writing Lab Reading Lab Speaking Lab Grammar Lab Public Speaking Preparatory Mathematics	

DIVISIONS OF INSTRUCTION

For a number of years the instructional work of the College has been divided into two main parts, Engineering, and Business Administration and Accounting. A survey of the educational needs of the community made during the spring and summer of 1945 indicated that the instructional work should be somewhat broadened in its scope. As a result the various curricula of the College have been modified and organized in four major instructional divisions: the Division of Business, the Division of Engineering, the Division of Management, and the Division of General Studies. For a detailed discussion see Page 40 through Page 63.

The Division of Business

Two major programs leading to the Associate in Science degree are offered in this division: Business Administration and Accounting. The Business Administration program is general in its nature and is designed primarily for men and women who wish to achieve junior administrative positions in business organizations. The Accounting program, by way of contrast, is designed primarily for students who are employed, or who anticipate being employed, in the financial end of business. Students who enroll in this curriculum usually have the vocational objectives of Junior Accountants in Industrial or Public Accounting. For further information see Page 40 through 45.

The Division of Engineering

Six major programs leading to the Associate in Science degree are offered in this division. In Mechanical Engineering two major programs are offered, Mechanical Design and Tool Engineering. The Mechanical Design program is primarily for men who are going into the more general mechanical engineering jobs in industry. The Tool Engineering program, which is being introduced in 1945, is designed specifically for men who wish to become Tool Design Engineers. In Electrical Engineering two major programs are offered: Electrical Power Engineering and Electrical Communications Engineering. The former is designed primarily for men and women who are doing general electrical power installations, maintenance, and operation work.

The Communications program, which is being introduced in the fall of 1945, is primarily for students who wish to enter the field of electrical transmissions and communications. The two programs in Materials Engineering are new, being introduced in the fall of 1945. One is designed primarily for men and women employed in industries which are dealing with non-metallic materials, plastics, rubber, and the like. The other is designed primarily for men and women employed in industries utilizing for the most part metallic materials. See Page 46 through Page 55 for detailed discussion.

The Division of Management

The Division of Management is a new division in the College to be introduced in the fall of 1945. It has grown out of the work of the College in the Engineering, Science and Management War Training Program. During the last five years, there has been an increasing demand for courses in Supervision, Production, Methods, Motion and Time Study, Safety, and others. Therefore, two major curricula leading to the Associate in Science degree, have been developed within this division: Personnel Supervision and Industrial Administration. The Personnel Supervision program is designed primarily for foremen, supervisors and others who are concerned with managing the personnel of a business. The program in Industrial Administration is designed primarily for persons whose major administrative responsibility is with materials, methods and other non-personnel phases of business. See Page 56 through Page 61 for detailed discussion.

The Division of General Studies

Unlike the other divisions of the College, the work in the Division of General Studies does not lead to Associate in Science degree. Rather, in this new division are organized special courses which are of general interest to special students, as well as to degree students registered in the other divisions of the College. The College anticipates that the work in this division will be considerably expanded in the next few years. See Page 62 through Page 63 for detailed discussion.

JAMES R. HIBBS,
Chairman Department of Business.

Division of Business

Accounting

This program has been carefully outlined to provide the accounting theory and legal knowledge required of those who are planning to take the state examination for the degree of Certified Public Accountant. It offers also the technical knowledge and related background required of those who wish to qualify as auditors, treasurers, controllers, and other similar positions in either public service or private business corporations where thorough accounting training is a requisite.

Business Administration

The program in business administration offers a systematic program of study as a broad foundation for positions of responsibility in the major areas of business activity. These areas include such varied fields as banking, purchasing, selling, merchandising, personnel work, and the business phases of manufacturing. Knowledge of the underlying principles of commerce, finance, and administration is essential to advancement in the fields of business.

PROGRAMS IN BUSINESS

YEAR	TERM	BUSINESS ADMINISTRATION	ACCOUNTING
FIRST YEAR	Fall and Winter	Modern Civilization (Ec 13-14) Accounting (A 11-12)	Modern Civilization (Ec 13-14) Accounting (A 11-12)
	Spring and Summer	Modern Science (S 11-12) English (E 13-14)	Law of Contracts and Business Associations (L 11-12) English (E 13-14)
SECOND YEAR	Fall and Winter	Psychology (P 21-22) Business Finance (BA 21-22)	Accounting (A 21-22) Law of Sales (L 21) Law of Commercial Paper (L 22)
	Spring and Summer	Economics (Ec 33-34) Law of Contracts and Business Associations (L 11-12)	Economics (Ec 33-34) Accounting (A 31-32)
THIRD YEAR	Fall and Winter	Public Relations (BA 31-32) Elective	Auditing (A 33-34) Income Tax Procedure (A 41-42)
	Spring and Summer	Elective Business Seminar (BA 41-42)	Elective Cost Accounting (A 23-24)

FIRST YEAR

Fall and Winter

Accounting (A 11-12).

Credit, 5 semester hours.

This course is designed to give a thorough foundation in the theory of accounting. The fields of study covered include: interpretation of assets, liabilities and net worth, preparation of statements, books of original entry, ledger accounts, and closing books. In the development of the general theory, actual business problems are presented for discussion and solution.

Modern Civilization (Ec 13-14).

Credit, 5 semester hours.

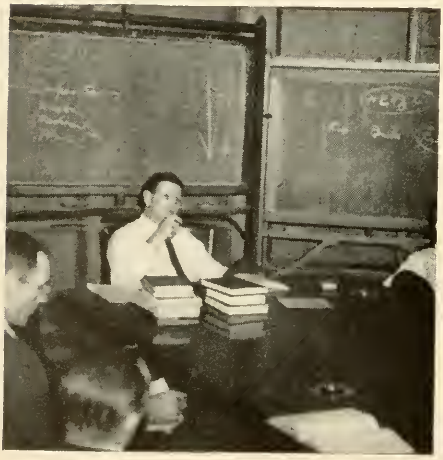
The purpose of this course is to give the student an understanding of the fundamental principles, philosophy, characteristics, and problems of modern society. The aim of the course is critical, rather than merely descriptive analysis. It treats such general issues as technical knowledge and its application to social organization; location and use of power. Ideas and philosophy, as well as the material aspects of our culture, will be examined.

Spring and Summer

Writing Laboratory (E 13).

Credit, 2½ semester hours.

This laboratory course is designed primarily to help students learn to write by writing—to develop the ability to organize thoughts quickly and effectively, to write with speed and facility, and to use good simple written English. In addition to familiarizing the student with the basic principles of expository writing, the laboratory section provides practice in applying these principles to the writing of letters, memos, reports, job descriptions, and other business papers.



INFORMAL BUSINESS SEMINAR

Speaking Laboratory (E 14).

Credit, 2½ semester hours.

This course serves as an introduction to the principles of speech. The objectives are: to develop in the student proficiency in the use of vocal and bodily aids in various speaking situations, and to help the student gain confidence and fluency when speaking extemporaneously, as in group discussions, or in everyday conversation. Recordings are used for self-analysis and criticism.

Law of Contracts and Business Associations (L 11-12).

Credit, 5 semester hours.

Contracts and agency will involve a study of the formation of contracts, capacity of parties, offers and modes of acceptance and other requisites; performance of contracts, conditions upon duty to perform, and discharge; the appointment of agents, and the creation of agency; the employment contracts; power of agent to bind his principal in dealing with third parties; duties of agent and principal to one another.

Business Associations will involve the law relating to the formation and operation of the unusual types of business organizations, the rights and liabilities of partners among themselves and their relations to third parties, dissolution of partnership, limited partnership, the business trust, promotion and organization of corporations, the conduct of corporate affairs in their relation to the rights of stockholders and creditors.

Modern Science (Sc. 11-12).
Credit, 5 semester hours.

This course is designed to give the student a knowledge of the physical sciences and of scientific method. It is not a laboratory course, but will deal with primary source material. Its aim is to emphasize the use of the scientific approach to all problems, and at the same time, to enable the student to appreciate fully the impressive impact of science upon his life.

SECOND YEAR

Accounting (A 21-22).
Credit, 5 semester hours.

More advanced problems in the general field of accounting are covered in this course. Special attention is given to the adjustment of book records to reflect true conditions, to the preparation and interpretation of manufacturing accounts and statements, to partnership accounting and problems, and to accounting problems affecting corporations. The corporate balance sheet and the profit and loss statement, together with their respective accounts, are interpreted.

Prerequisites, A 11-12, L 11-12.

Accounting (A 31-32).
Credit, 5 semester hours.

This course is planned to cover subjects more advanced than those of the first and second years. It will include branch accounting and elementary coverage of consolidated statements, statements of application of funds, and accounting for estates and trusts. Selected problems from C.P.A. examinations will serve to review and drive home principles of accounting and accounting practice covered in the first and second years.

Prerequisites, A 21-22, L 11-12.

Law of Sales (L 21).
Credit, 2½ semester hours.

The study of sales involves a detailed consideration of the laws governing the rights of parties engaged in the transfer of personal property. This covers questions of title, risks assumed, rights of creditors, express and implied warranties, buyers' and sellers' remedies, together with the business background out of which such relations arise.

Prerequisite, L 11-12.

Law of Commercial Paper and Bankruptcy (L 22).
Credit, 2½ semester hours.

This course treats of promissory notes, checks and bills of exchange with an analysis of their form and function in commercial transactions. A short survey is made of the National Bankruptcy (Chandler) Act.

Prerequisite, L 11-12.

Psychology (P 21-22).
Credit, 5 semester hours.

This is a course in psychology applied especially to contemporary problems in business and industry. Following an initial survey of the basis of human behavior, attention is directed to a study of the means of predicting and controlling the behavior of both individuals and groups.

Business Finance (BA 21-22).

Credit, 5 semester hours.

Business Finance is designed to give a general understanding of internal financial considerations within the business unit. The mechanics of budgeting procedure, and of cost analysis are included. The purpose of the course is to give lower and intermediate administrative personnel an understanding of the financial characteristics of the individual company. It is not intended to give training or technical skill in budget construction, cost accounting practice, etc. Class meetings, discussion, and problems are included.

Economics (Ec 33-34).

Credit, 5 semester hours.

Economics takes for its field the study of principles, institutions and practices by which people gain a livelihood. The course consists of a brief survey of economic history; a study of the institutions through which economic activities are carried on; and a detailed examination of the principles and processes bearing upon production, exchange and consumption, both in relation to the individual enterprise and to society at large.

THIRD YEAR

Cost Accounting (A 23-24).

Credit, 5 semester hours.

The basic requirements of cost accounting are developed during the first semester. Studies are made of materials, labor, and overhead accounting and control. A complete "Job Order" cost is worked out by the student. Assignments include various problems encountered in "Specific" or "Job Order" costs. A thorough study is made of cost statements, reports for management, and the control of distribution and selling costs.

The "Process" type of cost systems is developed at the beginning of the second semester. This is followed by a complete survey of "Standard" cost systems used both as "Basic Standards" and "Current Standards". The latest improvements in the application of standard costs to budgetary control are brought out.

Prerequisite, A 11-12.

Auditing (A 33-34).

Credit, 5 semester hours.

This course includes a consideration of the problems arising in the practice of the professional accountant, particularly with reference to balance sheet and general audits. Relationship with the client, the working papers, the audit procedure and program, the accounting principles, the preparation of the report, the ethics of the profession, the procedure to disclose fraud and defalcations, are studied and discussed.

The work of the course will include the study of a textbook and the working of a laboratory set for an audit of a textile manufacturing company. Refinements and changes in audit procedure, resulting from advances in the profession and from criticisms and requirements of such governmental bodies as the Securities Exchange Commission, are included.

Prerequisite, A 21-22.

Income Tax Procedure (A 41-42).

Credit, 5 semester hours.

This course embraces a practical application of the principles of the Federal Income Tax Law to concrete situations. The problems include the preparation of corporaation, fiduciary, partnership and individual tax returns; claims for refunds, credit and abatement; records, reports, and requirements of Social Security and state and federal unemployment taxes; and the proper accounting procedure for tax records.

Prerequisite, A 21-22, or
Acctg 11-12 if B average

C.P.A. Problems (A 43-44).

Credit, 5 semester hours.

This course is an analysis and study of C.P.A. Problems from examinations of state boards of accountancy and the American Institute of Accountants. There is included a study of the principles of municipal accounting with particular reference to the requirements of Connecticut laws and regulations, and the C.P.A. problems in the subject; institutional accounting with reference to methods peculiar to such institutions as colleges, hospitals, etc. A wide variety of problems is included, some of which are worked out under state examination conditions.

Prerequisite, Ec. 11-12, A 31-32. A 33-34 to be taken concurrently or presented as a prerequisite.

Public Relations (BA 31-32).

Credit, 5 semester hours.

The aims of this course are: (1) to examine the principles involved in contacts between an organized unit (such as a business concern) and other organizations and individuals; (2) to explore the areas of such contacts by business units; and (3) to examine the principal methods and instruments of such public relations. Psychological factors, propaganda, agencies for the distribution of information and creation of opinions and attitudes, and various groups with which business has public relations are examined.

Prerequisite, P 21-22.

Seminar in Business (BA 41-42).

Credit, 4 semester hours.

This course is offered to give degree students in Business Administration an opportunity to examine problems and exchange views. Various contemporary issues related to business policy, administrative organization, public relations, etc., will be investigated. Work will consist of reading, independent research, group discussion, criticism, and submission of a written report by each member of the group.

Prerequisites: Forty hours of college credit of which at least twenty hours must be selected from Economics, Modern Civilization, Accounting 11-12, Business Finance, Psychology, Public Relations, and Law 11-12.

FRED J. BECK

ROBERT M. BRICK

Division of Engineering

Aeronautical Engineering

At the request of employees and management of Chance Vought Aircraft, the College developed, in the spring of 1944, a program in Aeronautical Engineering. Since the program is a Work-Study one, planned for men employed in an aeronautical industry, the advanced courses will be open only to men thus employed, and will be offered only at the Chance Vought plant in Stratford.

Tuition and fees for these courses are the same as those paid by students enrolled in New Haven. However, all such tuition and fees are payable on a semester basis, and must be paid on or before the opening day of any course. Further, students who find it necessary to withdraw from any course for any reason (military service excepted) will forfeit all payments. In the case of students entering the armed services, tuition will be refunded on a prorated basis, dating from the day the student officially terminates his employment with the company.

Electrical Engineering

The curricula of the electrical engineering program is divided into two branches, power engineering and communications engineering. The object of these programs of study are to provide a broad, general training in the fundamental principles and methods which underlie the whole field of electrical engineering and to study the advances in the fields of electronics and ultra-high frequencies. Classes are held in Dunham Laboratory of Electrical Engineering at Yale University, which is well equipped with power machinery, measuring instruments, and apparatus for the study of electrical circuits and electronic phenomena.

Materials Engineering

The programs in Materials Engineering are classed as metals engineering and non-metals engineering. The purpose of these programs is to give the student a thorough grounding in engineering fundamentals and to provide training in the processing and utilization of metalic and non-metalic materials, plus a study of the potential characteristics and processing variables of these materials. The programs have been so arranged that a student can combine the two programs by omitting the electrical engineering survey course and the non-technical elective.

Mechanical Engineering

The programs in mechanical engineering are planned to train men in tool engineering and in mechanical design engineering. The program in design engineering prepares men for designing various types of machinery and mechanical equipment and the program in tool engineering prepares the student to analyze and plan mechanical processes and tools. Laboratory work is integrated with other phases of class procedures as it may be found appropriate to the subject matter. Training is provided in both the technical and administrative work in the mechanical or manufacturing industries.

PROGRAM IN AERONAUTICAL ENGINEERING

FIRST YEAR	Fall and Winter	English (E 13-14) Mathematics (M 11-12)
	Spring and Summer	Physics (Ph 11-12) Mathematics (M 21-22)
SECOND YEAR	Fall and Winter	Mechanics (EM 21-22) Engineering Drawing
	Spring and Summer	Str. of Materials (EM 31-32) Fluid Mechanics (EM 35-36)
THIRD YEAR	Fall and Winter	Elem. Aerodynamics (AE 31-32) Aircraft Structures (EM 41-42)
	Spring and Summer	Adv. Aerodynamics (AE 41-42) Aircraft Stress Analysis (D 43-44)

PROGRAMS IN ELECTRICAL ENGINEERING

YEAR	TERM	POWER	COMMUNICATIONS
FIRST YEAR	Fall and Winter	Mathematics (M 11-12) English (E 13-14)	Mathematics (M 11-12) English (E 13-14)
	Spring and Summer	Physics (Ph 11-12) Engineering Drawing	Physics (Ph 11-12) Engineering Drawing
SECOND YEAR	Fall and Winter	Mechanics (EM 21-22) Mathematics (M 21-22)	Mechanics (EM 21-22) Mathematics (M 21-22)
	Spring and Summer	D.C. Circuits (EE 21-22) Elective	D.C. Circuits (EE 21-22) Elective
THIRD YEAR	Fall and Winter	A.C. Circuits (EE 31-32) Thermodynamics and Heat Power (Ph 31-32)	A.C. Circuits (EE 31-32) Electric and Magnetic Fields (EE 33-34)
	Spring and Summer	Electronics (EE 43-44) A.C. Machines (EE 41-42)	Electronics (EE 43-44) Communications Circuits (EE 45-46)

PROGRAMS IN MECHANICAL ENGINEERING

YEAR	TERM	DESIGN	TOOL
FIRST YEAR	Fall and Winter	Mathematics (M 11-12) English (E 13-14)	Mathematics (M 11-12) English (E 13-14)
	Spring and Summer	Physics (Ph 11-12) Engineering Drawing	Physics (Ph 11-12) Engineering Drawing
SECOND YEAR	Fall and Winter	Mechanics (EM 21-22) Mathematics (M 21-22)	Mechanics (EM 21-22) Mathematics (M 21-22)
	Spring and Summer	Strength of Materials (EM 31-32) Mechanical Processes (EM 23) Engineering Materials (EM 26)	Strength of Materials (EM 31-32) Elective
THIRD YEAR	Fall and Winter	Elementary Machine Design (D 33-34) Mechanics of Machines (EM 33-34)	Elementary Machine Design (D 33-34) Methods Engineering (IA 33-34)
	Spring and Summer	Advanced Machine Design (D 35-36) Elective	Steels and Their Heat Treatment (Mt 41-42) Tool Design (D 45-46)

PROGRAMS IN MATERIALS ENGINEERING

YEAR	TERM	METALS	NON-METALS
FIRST YEAR	Fall and Winter	Mathematics (M 11-12) English (E 13-14)	Mathematics (M 11-12) English (E 13-14)
	Spring and Summer	Physics (Ph 11-12) Engineering Drawing	Physics (Ph 11-12) Engineering Drawing
SECOND YEAR	Fall and Winter	Mechanics (EM 21-22) Inorganic Chemistry (Ch 21-22)	Mechanics (EM 21-22) Inorganic Chemistry (Ch 21-22)
	Spring and Summer	Strength of Materials (EM 31-32) Engineering Materials (EM 25-26)	Strength of Materials (EM 31-32) Engineering Materials (EM 25-26)
THIRD YEAR	Fall and Winter	Electrical Survey (EE 35-36) Non-ferrous Metallurgy (Mt. 31-32)	Electrical Survey (EE 35-36) Organic Chemistry (Ch 31-32)
	Spring and Summer	Steels and Their Heat Treatment (Mt. 41-42) Elective	Plastics and Rubber (Ch 41-42) Elective

FIRST YEAR

Writing Laboratory (E 13)

Credit, 2½ semester hours

This laboratory course is designed primarily to help students learn to write by writing—to develop the ability to organize thoughts quickly and effectively, to write with speed and facility, and to use good simple written English. In addition to familiarizing the student with the basic principles of expository writing, the laboratory section provides practice in applying these principles to the writing of letters, memos, reports, job descriptions, and other business papers.

Speaking Laboratory (E 14)

Credit, 2½ semester hours

This course serves as an introduction to the principles of speech. The objectives are: to develop in the student proficiency in the use of vocal and bodily aids in various speaking situations, and to help the student gain confidence and fluency when speaking extemporaneously, as in group discussions, or in everyday conversation. Recordings are used for self-analysis and criticism.

Mathematics (M 11-12)

Credit, 5 semester hours

The two-year course in mathematics is designed to be one of continuous development. Mathematics 11-12 is the basis of what follows during the second year. Here, the student learns to state known information about related quantities in mathematical form and to apply operations already learned to this statement so as to obtain new information. The fundamental ideas are illustrated by reviewing topics studied in algebra and geometry. Then the necessity of the limit operation is motivated and its basic consequences considered. Subsequently the general ideas of the differential and integral calculus are developed.

Engineering Physics (P 11-12)

Credit, 5 semester hours

This is a basic course in physics for technical students with laboratory, lectures, and demonstrations. In addition to the basic principles of physics, the course includes use of the slide rule, applied mathematics, and graphical methods of presentation and analysis.

The course helps to orient the student to the engineering profession, so that he may better understand the methods of thought and work. One important aim is to develop the habit of using correct methods of thinking and analysis in the solution of engineering problems.

Prerequisite, M 11-12 to be presented as a prerequisite or taken concurrently.

Engineering Drawing (D 11-12)

Credit, 5 semester hours

This is an elementary course in engineering drawing designed to teach the use of instruments, the fundamental principles of projection, drafting room standards and conventions, lettering, selection and use of scales, orthographic projections, revolutions, developed surfaces, intersections and auxiliary views, and the making and dimensioning of complete working drawings of simple machine parts.

Engineering Drawing (D 21-22)

Credit, 5 semester hours

This course is designed to develop the student's ability to visualize the assembly of machine parts. The work covers a review of the fundamentals of drafting, additional theory of orthographic projections and perspective sketchings, the making of detail and assembly drawings of simple machines involving the use of simple screw gear and level mechanisms.

Prerequisite, D 21-22.

Inorganic Chemistry (Ch 21-22)
Credit, 5 semester hours

The objective of this course is to place emphasis on fundamental facts and principles of modern chemistry, particularly as applied in the field of engineering materials, and to afford practice in the accurate statement of scientific ideas and logical deduction from experimental observation. The course includes some laboratory work. *It does not presuppose any knowledge of chemistry.*

Direct Current Circuits and Machinery (EE 21-22).
Credit, 5 semester hours

Fundamental theory of electric and magnetic circuits and its application to direct current machinery are considered. The course includes laboratory work in measurements of electrical quantities and characteristics of direct current motors and generators.

Prerequisite, M 11-12.

Mathematics (M 21-22)
Credit, 5 semester hours

A short time is spent reviewing the concept of limit of a function. The work then proceeds to the consideration of the application of the calculus to problems of geometry and the physical sciences. Among the applications considered is the use of differential equations of the second order with constant coefficients.

Prerequisite, M 11-12.

Mechanics (EM 21-22)
Credit, 5 semester hours

In the first semester, the theory and application of the principles of static equilibrium, stress in framed structures, center of gravity and moment of inertia; force, mass and acceleration, and friction are studied.

In the second semester, rectilinear and curvilinear motion; work, power and energy; impulse and momentum; and a practical study of machine elements and problems in machine design are considered.

Prerequisites, M 11-12,
Ph 11-12.

Mechanical Processes (EM 23)
Credit, 2½ semester hours

This course is designed to acquaint the student with the basic processes and equipment of industry. It begins with the processes involved in the production of engineering raw materials and proceeds through the various methods by which these materials are formed and combined into finished products. Foundry, forge, machine-shop, presswork, die-casting, and welding are examples of the methods and equipment discussed.

Engineering Materials (EM 25-26).
Credit, 5 semester hours

A survey of the common engineering materials including wood, concrete, plastics, fibres and rubbers in the first half and metals in the second half, this course is conducted largely by lecture and discussion but with occasional laboratory periods of a demonstration nature. Attention is directed to the production of these materials, methods of forming or of fabrication, and typical properties of the final product—the bases for the selection of a particular material for a specific use.

Strength of Materials (EM 31-32).

Credit, 5 semester hours

This course considers the theory of stress and resistance of materials; stress distribution in riveted joints, shafts, beams, and columns; principal stresses; laboratory practice in materials testing; hardness, fatigue and impact strength; and problems in machine design and building construction.

Prerequisite, EM 21-22.

Fluid Mechanics (EM 35-36)

Credit, 5 semester hours

In this course, the following fundamentals are studied: physical properties of fluids, hydrostatics, kinematics and continuity, the energy of equation, dynamics of ideal and of viscous fluids, single airfoils, potential flow and circulation. Emphasis will be given to the applications of fluid mechanics to aerodynamics.

Prerequisites, EM 21-22,
M 21-22.

THIRD YEAR

Alternating Current Circuits (EE 31-32).

Credit, 5 semester hours

Fundamental theory of single phase and polyphase alternating current circuits, instruments and measurements is considered. Suitable laboratory work is included.

Prerequisites, EE 21-22,
M 21-22.

Electric and Magnetic Fields (EE 33-34).

Credit, 5 semester hours.

The physical and analytical properties of electric and magnetic fields are investigated and correlated with circuit concepts such as self inductance, mutual inductance, and capacity. The basic ideas underlying the study of transient phenomena are introduced.. Computation and laboratory work are included.

Prerequisites, M 21-22,
EE 21-22.

Alternating Current Machinery (EE 41-42).

Credit, 5 semester hours.

This course deals with the fundamental principles of alternating current machinery and an introduction to the theory of electronic tubes, with emphasis on the industrial and economic aspects of their application. About one-quarter of the time is devoted to laboratory work.

Prerequisite, EE 31-32.

Electronics (EE 43-44).

Credit, 5 semester hours.

The physics of electron tubes and their use as circuit elements is discussed. Amplification, oscillation, modulation, and detection are explained and their application to industrial devices and communication equipment is considered. Laboratory and computation work are designed to emphasize the important aspects of the class study.

Prerequisite, EE 31-32.

Communication Circuits (EE 45-46).

Credit, 5 semester hours.

The properties and uses of completed circuits, transmission lines and filters are developed and discussed. The fundamentals of electro-magnetic waves and their application to antenna radiation problems and the propagation of waves along guides are investigated. Computation and laboratory work are included.

Prerequisites, EE 31-32, EE 33-34, EE 43-44.

Mechanics of Machines (EM 33-34).

Credit, 5 semester hours.

Advanced applied mechanics emphasizes the applications to engineering problems including governors, gyroscopic devices, balancing, vibration, friction, dynamics of the reciprocating engine, hoisting machinery, etc. The course is of the lecture and discussion type with assigned problems designed to encourage analytical reasoning.

Prerequisite, EM 21-22.

Thermodynamics and Heat Power (Ph. 31-32).

Credit, 5 semester hours.

The principles of thermodynamics, energy and energy transformations, properties of media, availability of energy, typical processes and cycles, combustion processes, and flow of fluids are discussed in this course.

Prerequisites, Ph. 11-12, M 21-22.

Elementary Machine Design (D 33-34).

Credit, 5 semester hours.

The analysis and design of such elements as fastenings, bearings, gears, shafts, clutches, pulleys, and cams are discussed. Some machine parts are studied from the standpoint of kinematics, and their motions are analyzed.

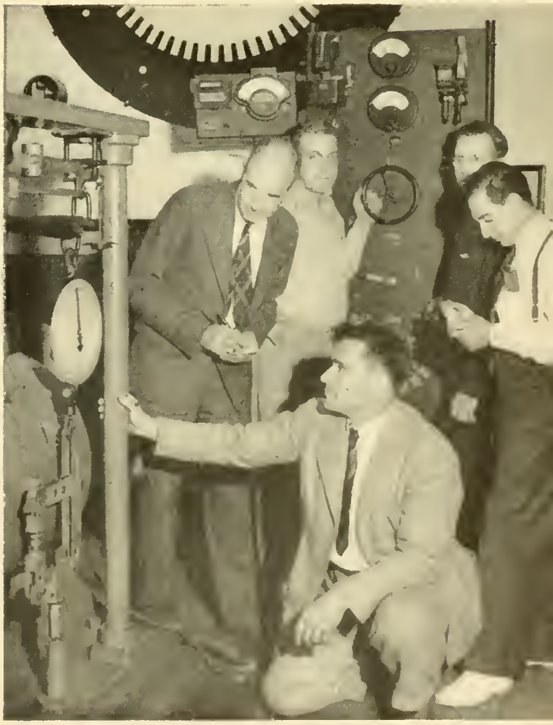
Prerequisites, D 21-22, EM 21-22.

Advanced Machine Design (D 41-42).

Credit, 5 semester hours.

The elements of machine design studied in the first year are unified in the complete design, by each student, of a punch press or other machine. Advanced problems, such as balancing and critical speeds, are considered the latter part of the year.

Prerequisites, D 33-34, EM 31-32.



Aircraft Stress Analysis (D 43-44).

Credit, 5 semester hours.

This course considers the continuation of the theoretical work of Aircraft Structure, to include the resistance of thin-walled structures to compressive and shear loads, buckling resistance, stressed-skin construction of wings, fusilages and control surfaces. The course stresses analysis procedure for compliance with Army, Navy, or Civil Aeronautics Authority regulations.

Prerequisite, EM 41-42.

Electrical Survey (EE 35-36).

Credit, 5 semester hours.

The basic principles of electrical engineering are developed and studied in relationship to their application to electrical equipment in common usage. Lecture, demonstration, computation, and laboratory work supplement the regular recitation classes.

Prerequisites, M 11-12,
Ph. 11-12.

Tool Design (D 45-46).

Credit, 5 semester hours.

A lecture, discussion and drafting room course covering production tools, such as punches and dies, gauges, cutting tools, machine tools, jigs and fixtures. Stress is laid on strength, accuracy and costs, utilizing practical examples from industry. A part of the course consists of a thesis project—the complete tooling of a product including selection of equipment, fixtures, cutting tools, speeds and feeds, operating time, cost estimates, etc.

Prerequisites, D 33-34,
EM 31-32.

Non-ferrous Metallurgy (Mt. 31-32).

Credit, 5 semester hours.

The physical metallurgy of aluminum, magnesium, copper, nickel, zinc, lead, tin and their alloys is covered by lecture, discussion and laboratory work. Melting, alloying, casting, extruding, rolling or drawing, and heat treatment of the metals are studied with emphasis on the effects of variables and reasons therefor. Typical mill and service difficulties are analyzed in light of the specific fundamental principles involved.

Prerequisite, Ch. 21-22.

Steels and Their Heat Treatment (Mt. 41-42).

Credit, 5 semester hours.

The course covers all grades of carbon and alloy steels used for press, structural, automotive, tool and die work, and in addition, cast irons as a supplementary or competitive material. The fundamentals, Fe-C phase diagram and transfer diagrams, grain size, hardenability, etc., are studied first and then applied to a study of heat treatments including annealing, hardening, tempering, carburizing, etc. Equipment including protective atmospheres, liquid baths, and induction heating, are considered with a view of the particular fields of application. Laboratory work is supplemented by lectures and discussions.

Prerequisite, EM 31-32.

Elementary Aerodynamics (Ae 31-32).
Credit, 5 semester hours.

This course includes the study of the properties of the atmosphere, use of experimental data to determine force on airfoils and other bodies due to air in motion, theory of airfoils of finite span, and overall performance analysis of typical airplanes, including the engine propeller unit and the basic criteria for longitudinal stability.

Prerequisite, EM 35-36.

Advanced Aerodynamics (Ae 41-42).
Credit, 5 semester hours.

The first semester includes the study of fundamental principles, data from wind tunnel, standard atmosphere, theory of lift of an airfoil, Prnadtl theory of lift for a finite span, airfoil section design, effect of flaps, slots, and spoliers, spanwise lift distribution. In the second semester, emphasis is placed on performance calculations, stability and control, determination of tail surface loads, aerodynamic load calculations, compressibility effects, dives and pull-outs.

Prerequisite, AE 31-32.

Organic Chemistry (Ch. 31-32).
Credit, 5 semester hours.

This course is designed as a preliminary to advanced work with organic constructional materials, e.g., rubber and plastics. It deals with fundamental principles of molecular and crystal structure of organic compounds, particularly chain and ring structures. Polymerization and depolymerization are covered with emphasis on the correlated property effects. Lectures and laboratory work.

Prerequisite, Ch. 21-22.

Rubber and Plastics (Ch. 41-42).
Credit, 5 semester hours.

This course is designed to acquaint the student with the manifold types of compounds employed industrially, with structural characteristics of each and the properties associated with specific structures, with fabrication processes, problems and variables and with the fields of utilization based on the background material. Lectures, discussion and some laboratory work are included.

Prerequisite, Ch. 31-32.

Aircraft Structures (EM 41-42).
Credit, 5 semester hours.

This course includes the study of mechanics of materials applied to the simple structural elements comprising an airplane, such as; beams, trusses, shafts and columns, with emphasis on displacements as well as stresses, and the more elementary examples of static indeterminacy; Castigliano's theorem and the method of least work, theories of failure for doctile and brittle materials.

Prerequisite, EM 41-42.

Methods Engineering (IA 33-34)
Credit, 5 semester hours.

Instruction in methods of analyzing plant equipment, products, and operations is covered in this course. Process charts, flow charts, analysis sheets, preparation of summaries of operations, analyses of tools and equipment requisite, specifications for materials, the handling of material in process, adapting plants to new products, the correlation of methods to safety and health requirements, are some of the items considered.

EVERETT W. MARTIN,
Chairman Department of Management.

Division of Management

Industrial Administration

The two major purposes of this program are: (1) to provide special training in specific subject-matter areas, and (2) to give the student-employee a broad basic background which will make him able to analyze and cope with contemporary industrial problems. The basic program covers work in the organization and management of industry, scientific methods, psychology, internal business finance, economics, engineering drawing and English. The work in the third year is devoted to specialization in subjects which will fit the student for staff positions in industry.

Personnel Supervision Program

This program is designed to meet the needs of individuals who hold or wish to prepare for supervisory positions in business and industry. About fifty percent of the program deals with the highly important subject of human relations. The other half of the program is devoted to a study of relationship between production supervision and staff departments, and to a survey of problems dealing with cost, methods, production and other technical aspects of the supervisor's job.

PROGRAMS IN MANAGEMENT

YEAR	TERM	PERSONNEL SUPERVISION	INDUSTRIAL ADMINISTRATION
FIRST YEAR	Fall and Winter	English (E 13-14) Industrial Organization and Management (IA 11-12)	Modern Civilization (Ec 13-14) Industrial Organization and Management (IA 11-12)
	Spring and Summer	Modern Science (S 11-12) Organization for Supervision (PS 11) Methods and Costs (IA 14)	Modern Science (S 11-12) English (E 13-14)
SECOND YEAR	Fall and Winter	Psychology (P 21-22) Mathematics (M 11-12)	Psychology (P 21-22) Business Finance (Ec 23-24)
	Spring and Summer	Economics (Ec 33-34) Personnel Administration (PS 21-22)	Economics (Ec 33-34) Engineering Drawing
THIRD YEAR	Fall and Winter	Control of Production (IA 31-32) Engineering Drawing	Control of Production (IA 31-32) Elective
	Spring and Summer	Elective Management-Labor Relations (PS 41) Personnel Seminar (PS 42)	Elective Methods Engineering (IA 33-34)

FIRST YEAR

Writing Laboratory (E 13).
Credit, 2½ semester hours.

This laboratory course is designed primarily to help students learn to write by writing—to develop the ability to organize thoughts quickly and effectively, to write with speed and facility, and to use good simple written English. In addition to familiarizing the student with the basic principles of expository writing, the laboratory section provides practice in applying these principles to the writing of letters, memos, reports, job descriptions, and other business papers.

Speaking Laboratory (E 14).
Credit, 2½ semester hours.

This course serves as an introduction to the principles of speech. The objectives are: to develop in the student proficiency in the use of vocal and bodily aids in various speaking situations, and to help the student gain confidence and fluency when speaking extemporaneously, as in group discussions, or in everyday conversation. Recordings are used for self-analysis and criticism.

Industrial Organization and Management (IA 11-12).

Credit, 5 semester hours.

This is a fundamental course dealing with the history of American industry; the organization of the industrial enterprise; the making of the product, with its manifold problems of men, materials, and machines; and the distribution of the product to the consumer. Through such a survey, together with specific cases, the intent is to provide a working knowledge of our highly complex industrial organizations, and at the same time, to establish the principles by which competent management is guided.

Methods and Costs (IA 14).

Credit, $2\frac{1}{2}$ semester hours.

Specific consideration is given to the responsibility of the supervisor or foreman in working with the cost and methods departments. The two subjects of methods and costs are considered together because of their close relationship in industrial operations and because of their effect on industrial stability. This course is intended to develop the basic principles of work simplification. An appreciation of methods analysis and procedures is also covered. Attempt is made to provide an understanding of the factors comprising cost and the principles involved in the analysis and control of costs.

Modern Civilization (Ec 13-14).

Credit, 5 semester hours.

The purpose of this course is to give the student an understanding of the fundamental principles, philosophy, characteristics, and problems of modern society. The aim of the course is critical, rather than merely descriptive analysis. It treats such general issues as technical knowledge and its application to social organization; location and use of power. Ideas and philosophy, as well as the material aspects of our culture, will be examined.

Modern Science (Sc 11-12).

Credit, 5 semester hours.

This course is designed to give the student a knowledge of the physical sciences and of scientific method. It is not a laboratory course, but will deal with primary source material. Its aim is to emphasize the use of the scientific approach to all problems, and at the same time, to enable the student to appreciate fully the impressive impact of science upon his life.

Organization for Supervision (PS 11).

Credit, 2½ semester hours.

Through discussion of actual cases and prepared case problems, this course is designed to investigate the principles involved in day to day leadership which are conductive to good moral accompanied by high production at low cost. Working relationships between departments and between individuals will be major fields for examinations.

SECOND YEAR

Business Finance (BA 21-22).

Credit, 5 semester hours.

Business Finance is designed to give a general understanding of internal financial considerations within the business unit. The mechanics of budgeting procedure, and of cost analysis are included. The purpose of the course is to give lower and intermediate administrative personnel an understanding of the financial characteristics of the individual company. It is not intended to give training or technical skill in budget construction, cost accounting practice, etc. Class meetings, discussion, and problems are included.

Mathematics (M 11-12).

Credit, 5 semester hours.

The student learns to state known information about related quantities in mathematical form and to apply operations already learned to this statement so as to obtain new information. The fundamental ideas are illustrated by reviewing topics studied in algebra and geometry. Then the necessity of the limit operation is motivated and its basic consequences considered. Subsequently the general ideas of the differential and integral calculus are developed.

Psychology (P 21-22).

Credit, 5 semester hours.

This is a course in psychology applied especially to contemporary problems in business and industry. Following an initial survey of the basis of human behavior, attention is directed to a study of the means of predicting and controlling the behavior of both individuals and groups.

Economics (Ec 33-34).
Credit, 5 semester hours.

Economics takes for its field the study of principles, institutions and practices by which people gain a livelihood. The course consists of a brief survey of economic history; a study of the institutions through which economic activities are carried on; and a detailed examination of the principles and processes bearing upon production, exchange and consumption, both in relation to the individual enterprise and to society at large.

Personnel Administration (PS 21-22).
Credit, 5 semester hours.

By its nature and purpose, this course is divided into two parts. The first, dealing with the basic concepts of personnel supervision, is concerned with the principles of personal adjustment, the social organization of business, motivation and incentives, employee attitudes, and morale.

In the second term, emphasis is placed on such techniques of personnel administration as interviewing, job analysis, appraisal and placement, training, merit rating, employer-employee relations, and wage administration.

THIRD YEAR

Control of Production (IA 31-32).
Credit, 5 semester hours.

The instruction stresses the basic principles that govern production control in an industrial plant. The procuring and control of materials; the problem of routing, scheduling, dispatching, and follow-up; the questions of inspection of products and quality control—these are indicative of the nature of the course. Its intent is to train the student in the use of the most up-to-date methods in this field.

Engineering Drawing (D 21-22).
Credit, 5 semester hours.

This is an elementary course in engineering drawing designed to teach the use of instruments, the fundamental principles of projection, drafting room standards and conventions, lettering, selection and use of scales, orthographic projections, revolutions, developed surfaces, intersections and auxiliary views, and the making and dimensioning of complete working drawings of simple machine parts.

Management-Labor Relations (PS 41).

Credit, $2\frac{1}{2}$ semester hours.

A survey course designed to provide an understanding of the problems involved in Management-Labor Relations through a study of background material and current practices. The course includes collective bargaining and the labor contract; the government and legal framework of management-labor relations; problems of wages, hours, working conditions and grievance procedure. Where possible, the course is developed by conference methods and with the aid of guest speakers.

Methods Engineering (IA 33-34)

Credit, 5 semester hours.

Instruction in methods of analyzing plant equipment, products, and operations is covered in this course. Process charts, flow charts, analysis sheets, preparation of summaries of operations, analyses of tools and equipment requisite, specifications for materials, the handling of material in process, adapting plants to new products, the correlation of methods to safety and health requirements, are some of the items considered.

Personnel Seminar (PS 42).

Credit, $2\frac{1}{2}$ semester hours.

There are two main objectives in this course: (1) Practice in conference leadership. (2) Tieing together the educational work covered in this program and the practical experience of the student. This will be done through carefully chosen problems which will vary from year to year. Each student will prepare a report and conduct class discussions concerning his problem.

Prerequisites: Open to advanced students only.

MAKING RECORDINGS FOR THE SPEAKING LAB.

Division of General Studies

The purpose of the Division of General Studies is to offer special courses which are of general interest to special students or to degree students registered in the other divisions of the College. Some of the courses offered in this Division are on the pre-college level and are designed to aid students to prepare for the state equivalency examination or to enable them to meet the College entrance requirements. The work in the Division of General Studies does not lead to the Associate in Science degree.

Reading Laboratory (English B).

A one semester course.

This course is planned, first, to meet the needs of students who need to gain skill in reading, and second, to arouse intellectual curiosity and an appreciation for wider and deeper reading. Skill in comprehension and speed is taught by exercises given to improve use of the eyes, through cultivation of good muscular habits; a broadened vocabulary, through alertness about words; faster and more accurate comprehension, through concentration; and, finally, speed.

Writing Laboratory (E 13).

Credit, 2½ semester hours.

This laboratory course is designed primarily to help students learn to write by writing—to develop the ability to organize thoughts quickly and effectively, to write with speed and facility, and to use good simple written English. In addition to familiarizing the student with the basic principles of expository writing, the laboratory section provides practice in applying these principles to the writing of letters, memos, reports, job descriptions, and other business papers.

Grammar Laboratory (English A).
A one semester course.

This course is intended to bring students to an acceptable level of proficiency in English grammar and usage, whatever their prior preparation in the subject may have been. Special work is prescribed for those whose preparation is inadequate or for those who show need of review. The objectives of the course are: first, to teach the student the fundamental principles upon which good English is based; second, to give him practical experience in the use of English by written exercises and themes, recitations, note-books and conferences; and to train in the use of the dictionary.

Speaking Laboratory (E 14).
Credit, 2½ semester hours.

This course serves as an introduction to the principles of speech. The objectives are: to develop in the student proficiency in the use of vocal and bodily aids in various speaking situations, and to help the student gain confidence and fluency when speaking extemporaneously, as in group discussions, or in everyday conversation. Recordings are used for self-analysis and criticism.

Public Speaking (E 21-22).
Credit, 5 semester hours.

This course is based upon a study of the types of address. The speech of the unexpected occasion, the after-dinner speech, speeches of presentation, acceptance, introduction, nomination, praise, blame, tribute, eulogy, welcome, farewell and of entertainment are studied with a view to the requirement of the class. Special attention is given to committees, conferences, and conventions with practice in parliamentary law. The course aims to develop an effective speaking style. Classwork and private conference.

Elementary Mathematics (A-B, C-D).
Four semesters.

Plane geometry and algebra are taught as one continuous course with emphasis on the algebra. The work in algebra includes the following topics: factoring, fractions, theory of equations, law of exponents, inequalities, ratio and proportion, problems, and many simple applications from physics. The principal propositions in plane geometry are discussed and proved, as far as possible, by the use of algebra. Special emphasis is given to the solutions of originals in plane geometry.

Admission to the course is on the basis of the high school record and the general examination required of all entering students.

Mathematics (M 41-42).
Credit, 5 semester hours.

This course is designed to present the essential physical and mathematical principles that lead to the use of differential equations. Problems of fundamental importance in aircraft design and analysis are discussed in detail. Emphasis is placed on methods to be used in setting up the equation from the physical laws.

Prerequisite: M 21-22.

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CALENDAR 1945-46

Fall and Winter

First Semester

		1945
Veterans Conference	Wednesday	August 29
Freshman Placement Examinations		September 4, 6
Veterans Conference	Wednesday	September 19
Registration Period Closes	Monday	September 24
Freshman Placement Examinations		September 26, 28
Equivalency Examinations		October 1, 3
Classes begin	Monday	October 8
Thanksgiving Day—holiday	Thursday	November 29
Examinations begin	Wednesday	December 12
Examinations end	Friday	December 14

Second Semester

		1946
Registration period closes	Wednesday	January 2
Classes begin	Monday	January 7
Washington's Birthday—holiday	Friday	February 22
Examinations begin	Friday	March 15
Examinations end	Monday	March 18

Spring and Summer

First Semester

Veterans Conference	Friday	March 1
Freshman Placement Examinations		March 4, 6
Veterans Conference	Wednesday	March 20
Registration period closes	Friday	March 22
Freshman Placement Examinations		March 27, 29
Equivalency Examinations		April 2, 4
Classes begin	Monday	April 8
Good Friday—holiday	Friday	April 19
Memorial Day—holiday	Thursday	May 30
Examinations begin	Friday	June 14
Examinations end	Monday	June 17

Second Semester

Registration period closes	Wednesday	July 3
Classes begin	Monday	July 8
Labor Day—holiday	Monday	September 2
Examinations begin	Friday	September 13
Examinations end	Monday	September 16